

# Amplex Diamond and CBN Products



- *Electroplated Products*
- *Flexible Diamond Hand Pads and Discs*
- *Resinoid-Bond Products and Amplex Express Service*
- *Metal-Bond Wheels*
- *Vitrified Dressing Sticks*
- *Diamond Dressing Tools and Truing Devices*
- *Diamond Compounds*



**new! Amplex Express Made-to-Order Service**  
50,000+ custom resinoid products with 2-week leadtimes!

[www.amplexabrasives.com](http://www.amplexabrasives.com)

Today's Solutions,  
Tomorrow's Standards

# Products and Services

## Stock Products

450 products available from stock – now! As industrial technology rapidly advances, Amplex is ready with stock products for the expanding diamond and CBN applications of traditional and emerging markets.

## New! Amplex Express Made-to-Order Service

50,000+ non-stock resinoid diamond and CBN products with competitive prices and 2 week lead-times for 12" and less diameter wheels (standard lead-times for larger wheels). See pages 26 - 41.

If you don't find your resinoid specification, shape, or size in our stock offering, we very likely can create it for you *quickly* through our Amplex Express service.

## Made-to-Order Engineered Products

Don't find the exact specification or size in our stock or Express offering? When your application calls for a product design not available from our standard offering, Amplex can provide custom products engineered to your drawings.

## Other Non-Stock Products Available from Amplex

- Diamond and CBN Belts
- Diamond Film Rolls and Sheets
- Vitrified Bond Diamond and CBN Wheels
- Metal Bond Diamond Light Construction Wheels/Blades
- Metal Bond Diamond Core Drills

## Strip and Replate

Amplex offers complete strip and replate service on many electroplated products.

## Reset / Relap

Many of our stationary dressing tools can be relapped or reset.



Today's Solutions,  
Tomorrow's Standards

# The Amplex Diamond and CBN Products Catalog

## Contents at a Glance

See back cover for a detailed Table of Contents

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## Using Our Catalog

### Locating a product:

Products can be easily found by using the table of contents.

Products are grouped and color-coded by product type: Electroplated Products, Resinoid-Bond Products, etc.

If you know the wheel type/shape needed, you can use the Wheel Type Index on page 16.

### Identifying Target Markets:

An industry key is provided beside each product. This key identifies markets that typically use the product:

#### TARGET MARKET SYMBOLS:



### Technical Information:

To ensure correct usage and maximum performance of our products, refer to the General Information and Tech Tip pages at the beginning of each product section.

## Ordering

Our many products and services can be ordered through our network of quality industrial distributors.

To ensure accurate and rapid order fulfillment, please provide your distributor with:

- UPC Number: the 11-digit number found in each product availability chart in the first left-hand column
- Product Description: such as a CBN mounted point or a diamond wheel
- Dimensions and Wheel Shape: such as 6 x 1/4 x 1-1/4 Type 1A1 diamond wheel
- Product Specification: this could be MD120-R100B-1/8 for a bonded product or 100 grit-Diamond for an electroplated product
- Order quantity

**For a list of authorized Amplex distributors near you, please visit [www.amplex.com](http://www.amplex.com) or call us at Amplex Customer Service**

**In the United States: 508-368-8567 or 800-962-6191  
In Canada: 905-547-2551**



## Amplex No-Risk Test Policy

Amplex stands behind the superior performance of our products. To verify the superiority of our products, we invite in-plant testing against any other brand of superabrasive products or lower performance tiers of our own products. This makes it as easy as possible for you to see the time-, labor-, and money-saving advantages of Amplex products.

# General Information

## Abrasive Applications

Although diamond and CBN (Cubic Boron Nitride) are both superabrasives, the use of diamond and CBN varies, depending upon the materials to be ground.

### Diamond Grinds:

- Cemented Carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Composites
- Abrasives
- Stone
- Electronic Components & Materials

### CBN Grinds:

- High-Speed Tool Steels
- Die Steel
- Hardened Carbon Steels
- Hardened Stainless Steels
- Alloy Steels
- Aerospace Alloys
- Abrasion-Resistant Ferrous Materials

In general, CBN is used to grind ferrous materials. Diamond is used to grind non-ferrous materials, because it reacts with iron.

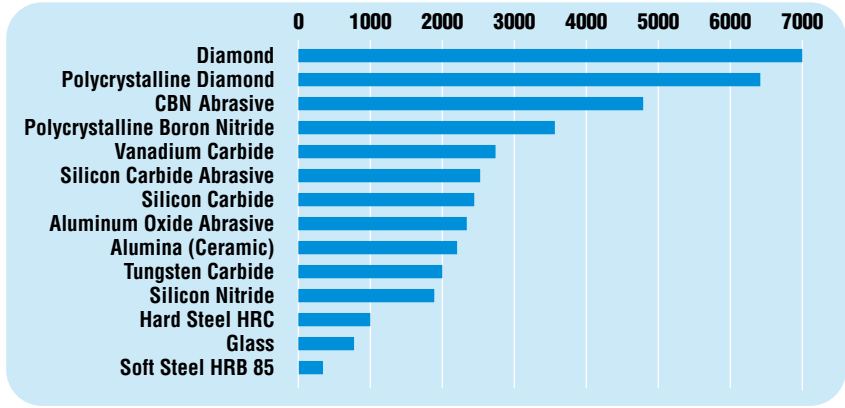
GRIT SIZE	EXPECTED RMS FINISH		
	RESIN-BOND DIAMOND	RESIN-BOND CBN (OSCILLATION)	ELECTRO PLATED
80	24-30		90-125
100	18-24	35-40	64-90
120	16-18	30-35	48-64
150	14-16	25-30	32-48
180	12-14	20-25	24-32
220	10-12	15-20	20-24
240	8-10	10-15	16-20
320	8	5-10	16-20
400	6-8	4-8	14-20
500	6		12-13
600	5-6		12
800	3-5		12
1200	2-4		12
1500	2		12

## Surface Finish

Use this chart only as a guide. Surface finish is affected by a number of variables, i.e. machine type and condition, type of material, coolant, wheel speed, bond system, etc.

## Material Hardness Scale

Superabrasives is a term used to describe those abrasives of extreme hardness which produce outstanding results when properly used on specific applications. The following chart provides a hardness comparison (Knoop Hardness Scale) between diamond and CBN superabrasives, aluminum oxide and silicon carbide standard abrasives, and some common materials these abrasives are used to grind.



## Superabrasive Safety

Safe operating practices must be part of every user's operation.

- Be sure to read any safety material/guidelines provided with the abrasive product.
- When not using the superabrasive wheel, store it in its original packing materials. This protects the wheel from chips and cracking, as well as provides easy identification of the wheel.
- Always examine the grinding wheel before starting to grind.
- Before mounting the wheel, use a tachometer to measure the spindle speed.
- Ensure the mounting flanges, backplate, or adapter supplied by the machine manufacturer are used and kept in good condition.
- Check mounting flanges for equal and correct diameter and use blotters when supplied.
- Ensure the correct wheel guard is in place before starting the wheel.
- Stand out of the plane of rotation and allow the wheel to come up to full operating speed for one minute before starting to grind.
- Never exceed the maximum speed shown on the wheel or those established by ANSI Safety Requirements B7.1.
- To obtain maximum performance from the superabrasive wheel, the end-user must follow safety and storage guidelines before, during and after use of the wheel.
- Always mount, true and dress the wheel in conformance with the guidelines published in the ANSI Safety Requirements B7.1.
- Also see Federal Hazard Communication Standard 29 CFR 1910.95, 1910.132, 1910.133, 1910.134, 1910.138 and 1910.1200 and Material Safety Data Sheets.

### Face & Eye Protection

Always wear face and eye protection when using abrasive products.

### Wheel Guard

Always use the wheel guard as supplied by the machine manufacturer.

### Respiratory Protection

Always use dust controls and protective measures appropriate to the material being ground.

### Flanges

When mounting grinding wheels, only use flanges of equal diameter.

### Safety Gloves

Grinding applications are conducted in harsh environments. The use of safety gloves is recommended.

### Speeds

Check machine speed against safe maximum operating speed marked on the grinding wheel. Do not overspeed the wheel.

### Hearing Protection

Use of this product may create elevated sound levels. Hearing protection must be worn where required.

### Safety Guides and Wheel Warning Messages

Amplex provides information pertaining to the safe use of all its products. Please take the time to read it carefully.



## techtips *Speeds*

### Coolants

Although coolants may not be necessary, using a coolant produces superior surface finishes, a longer tool life, higher performance and reduces tool loading.

### Feeds

Suggested feeds for jig or internal grinding are from .0002" - .0004" per pass

### MAXIMUM OPERATING SPEEDS

Never exceed the maximum operating speed marked on the superabrasive wheel being used.

*Electroplated Products* ..... 16,000 SFPM

### RECOMMENDED OPERATING SPEEDS

The preceding wheel speed is the maximum safe speed and not necessarily the most efficient. Superabrasive products operate most effectively at speeds lower than the maximum. The following are general recommendations. CBN products, in many cases, are used effectively at higher speeds.

*Electroplated Diamond Products* ..... 5,000 to 12,000 SFPM

*Electroplated CBN Products* ..... 9,000 to 16,000 SFPM

The following formula may be used to quickly calculate wheel speed:

RPM = Revolutions Per Minute

SPFM = Surface Feet Per Minute

$$RPM = SFPM \div (\text{wheel diameter in inches} \times 0.262)$$

$$SFPM = \text{wheel speed in RPM} \times \text{wheel diameter in inches} \times 0.262$$

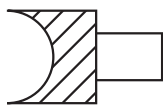
### Made-to-Order Electroplated Product Guidelines

The 460 stock electroplated products offered on the following pages have been engineered to meet the diversity of demands typical in today's manufacturing environment.

When special forms, shapes and configurations are required, Amplex electroplated Diamond and CBN products can be fabricated in almost any geometry. In addition, strip and replate services are available.

Customers may prefer to manufacture their own preforms/blanks for custom products and in many cases this can reduce cost and lead times.

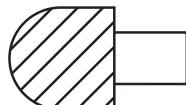
The instructions below detail the necessary allowances for each grit size. Please refer to these whenever manufacturing blanks.



#### AREA TO BE PLATED (FEMALE RADIUS)

Female radius must be larger than the finished size required.

Example - If a .500 female radius is required with 60/80 grit, then the blank should be manufactured .011 larger = .511



#### AREA TO BE PLATED (MALE RADIUS)

A male radius must be smaller than the finished size required.

Example - If a .500 male radius is required with 60/80 grit, then the blank should be manufactured .011 smaller = .489

### Grit Size Allowance for Plated Products

GRIT SIZE	ALLOWANCE/PARTICLE SIZE
20/30	.035
30/40	.025
40/50	.018
60/80	.011
80/100	.008
100/120	.007
120/140	.006
140/170	.005
170/200	.004
200/230	.0035
270/325	.003
4.5 Micron - 400	.0025
30 Micron - 600	.0016
15 Micron - 1200	.001

This should be used as a guide when manufacturing blanks to be plated with Diamond or CBN.

**Call your local Amplex distributor for made-to-order guidelines.**

# Mounted Points

## Diamond and CBN Mounted Points

### FEATURES

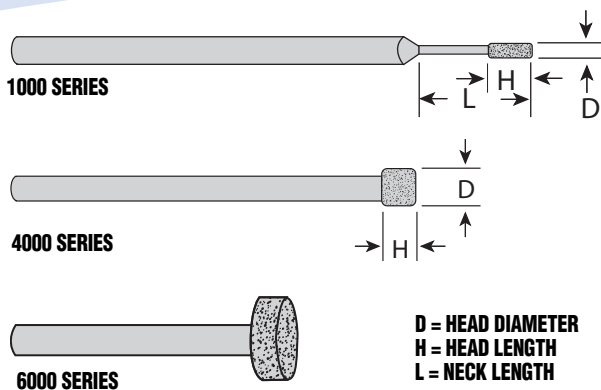
- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles
- Variety of tools and grit sizes available as stock
- Mandrels are made of high-speed tool steel

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action
- Satisfies most tool and die and deburring requirements
- Withstand operating pressure tool steel

Use Amplex diamond mounted points for precise, small hole, jig and internal grinding of carbide, ceramics, sapphire, glass and a variety of tough, super alloys.

For grinding tough, high carbon, high chrome steel, use CBN mounted points.



UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
<b>1000 Series – Diamond</b>					
<b>1/8" Shank x 2-1/4" Overall Length</b>					
66260392429	1016FD	.016	.079	1/8	200
66260392432	1020MD	.020	.079	1/8	150
66260392431	1020FD	.020	.079	1/8	200
66260392436	1025MD	.025	.079	1/8	150
66260392435	1025FD	.025	.079	1/8	200
66260392440	1030MD	.030	.079	1/4	150
66260392439	1030FD	.030	.079	1/4	200
66260392445	1035CD	.035	.118	1/4	100
66260392444	1035MD	.035	.118	1/4	150
66260392443	1035FD	.035	.118	1/4	200
66260392451	1040CD	.040	.118	1/4	100
66260392450	1040MD	.040	.118	1/4	150
66260392449	1040FD	.040	.118	1/4	200
66260392457	1045CD	.045	.118	1/4	100
66260392456	1045MD	.045	.118	1/4	150
66260392455	1045FD	.045	.118	1/4	200
66260392463	1050CD	.050	.118	1/2	100
66260392462	1050MD	.050	.118	1/2	150
66260392461	1050FD	.050	.118	1/2	200
66260392469	1050LCD	.050	.118	1	100
66260392468	1050LMD	.050	.118	1	150
66260392467	1050LFD	.050	.118	1	200
66260392475	1055CD	.055	.118	1/2	100
66260392474	1055MD	.055	.118	1/2	150
66260392473	1055FD	.055	.118	1/2	200
66260392481	1060CD	.060	.157	1/2	100

continued

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
<b>1000 Series – Diamond (continued)</b>					
<b>1/8" Shank x 2-1/4" Overall Length</b>					
66260392480	1060MD	.060	.157	1/2	150
66260392479	1060FD	.060	.157	1/2	200
66260392487	1060LCD	.060	.157	1	100
66260392486	1060LMD	.060	.157	1	150
66260392485 +	1060LFD	.060	.157	1	200
66260392493	1065CD	.065	.157	1/2	100
66260392492	1065MD	.065	.157	1/2	150
66260392491	1065FD	.065	.157	1/2	200
66260392499	1070CD	.070	.157	1/2	100
66260392498	1070MD	.070	.157	1/2	150
66260392497	1070FD	.070	.157	1/2	200
66260392505	1070LCD	.070	.157	1	100
66260392504	1070LMD	.070	.157	1	150
66260392503	1070LFD	.070	.157	1	200
66260392511	1075CD	.075	.157	1/2	100
66260392510	1075MD	.075	.157	1/2	150
66260392509	1075FD	.075	.157	1/2	200
66260392517	1080CD	.080	.157	1/2	100
66260392516	1080MD	.080	.157	1/2	150
66260392515	1080FD	.080	.157	1/2	200
66260392523	1080LCD	.080	.157	1	100
66260392522	1080LMD	.080	.157	1	150
66260392521	1080LFD	.080	.157	1	200
66260392529	1085CD	.085	.157	1/2	100
66260392528	1085MD	.085	.157	1/2	150
66260392527	1085FD	.085	.157	1/2	200
66260392535	1090CD	.090	.157	1/2	100
66260392534	1090MD	.090	.157	1/2	150
66260392533	1090FD	.090	.157	1/2	200
66260392541	1090LCD	.090	.157	1	100
66260392540	1090LMD	.090	.157	1	150
66260392547	1095CD	.095	.157	1/2	100
66260392546	1095MD	.095	.157	1/2	150
66260392545	1095FD	.095	.157	1/2	200
66260392553	1100CD	.100	.157	1/2	100
66260392552	1100MD	.100	.157	1/2	150
66260392551	1100FD	.100	.157	1/2	200
66260392559	1100LCD	.100	.157	1	100
66260392557	1100LFD	.100	.157	1	200
66260392565	1105CD	.105	.157	1/2	100
66260392564	1105MD	.105	.157	1/2	150
66260392563 *	1105FD	.105	.157	1/2	200
66260392571 +	1105LCD	.105	.157	1	100

continued

## Diamond and CBN Mounted Points ● ▲

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
<b>1000 Series – Diamond (continued)</b>					
<b>1/8" Shank x 2-1/4" Overall Length</b>					
66260392570	* 1105LMD	.105	.157	1	150
66260392569	* 1105LFD	.105	.157	1	200
66260392577	1110CD	.110	.157	1/2	100
66260392576	1110MD	.110	.157	1/2	150
66260392575	1110FD	.110	.157	1/2	200
66260392583	1110LCD	.110	.157	1	100
66260392581	+ 1110LFD	.110	.157	1	200
66260392589	1115CD	.115	.157	1/2	100
66260392588	1115MD	.115	.157	1/2	150
66260392587	1115FD	.115	.157	1/2	200
66260392595	1120CD	.120	.157	1/2	100
66260392594	1120MD	.120	.157	1/2	150
66260392593	1120FD	.120	.157	1/2	200
66260392601	1125CD	.125	.157	1/2	100
66260392600	1125MD	.125	.157	1/2	150
66260392599	1125FD	.125	.157	1/2	200
66260392607	1130CD	.130	.197	1	100
66260392606	1130MD	.130	.197	1	150
66260392605	1130FD	.130	.197	1	200
66260392613	1135CD	.135	.236	N/A	100
66260392612	1135MD	.135	.236	N/A	150
66260392611	1135FD	.135	.236	N/A	200
66260392619	1140CD	.140	.236	N/A	100
66260392618	1140MD	.140	.236	N/A	150
66260392617	* 1140FD	.140	.236	N/A	200
66260392625	1156CD	.156	.236	N/A	100
66260392624	1156MD	.156	.236	N/A	150
66260392623	1156FD	.156	.236	N/A	200
66260392731	1171CD	.171	.236	N/A	100
66260392730	1171MD	.171	.236	N/A	150
66260392729	1171FD	.171	.236	N/A	200
66260392737	1187CD	.187	.312	N/A	100
66260392736	1187MD	.187	.312	N/A	150
66260392735	1187FD	.187	.312	N/A	200
66260392743	* 1203CD	.203	.312	N/A	100
66260392742	1203MD	.203	.312	N/A	150
66260392741	1203FD	.203	.312	N/A	200
66260392749	+ 1218CD	.218	.312	N/A	100
66260392748	1218MD	.218	.312	N/A	150
66260392747	1218FD	.218	.312	N/A	200
66260392755	1250CD	.250	.312	N/A	100
66260392754	1250MD	.250	.312	N/A	150
66260392753	1250FD	.250	.312	N/A	200
66260363450	W10MD	.750	.035	N/A	150

### 1000 Series – CBN

<b>1/8" Shank x 2-1/4" Overall Length</b>					
66260392430	* 1016FC	.016	.079	1/8	200
66260392434	1020MC	.020	.079	1/8	150
66260392433	* 1020FC	.020	.079	1/8	200
66260392438	1025MC	.025	.079	1/8	150
66260392437	+ 1025FC	.025	.079	1/8	200
66260392442	1030MC	.030	.079	1/4	150
66260392441	1030FC	.030	.079	1/4	200
66260392448	+ 1035CC	.035	.118	1/4	100
66260392446	1035FC	.035	.118	1/4	200
66260392454	+ 1040CC	.040	.118	1/4	100
66260392453	1040MC	.040	.118	1/4	150
66260392452	1040FC	.040	.118	1/4	200
66260392460	1045CC	.045	.118	1/4	100

continued

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
<b>1000 Series – CBN (continued)</b>					
<b>1/8" Shank x 2-1/4" Overall Length</b>					
66260392459	+ 1045MC	.045	.118	1/4	150
66260392458	* 1045FC	.045	.118	1/4	200
66260392466	1050CC	.050	.118	1/2	100
66260392465	1050MC	.050	.118	1/2	150
66260392464	1050FC	.050	.118	1/2	200
66260392472	* 1050LCC	.050	.118	1	100
66260392471	+ 1050LMC	.050	.118	1	150
66260392478	* 1055CC	.055	.118	1/2	100
66260392477	+ 1055MC	.055	.118	1/2	150
66260392476	1055FC	.055	.118	1/2	200
66260392484	1060CC	.060	.157	1/2	100
66260392483	1060MC	.060	.157	1/2	150
66260392482	1060FC	.060	.157	1/2	200
66260392490	+ 1060LCC	.060	.157	1	100
66260392489	* 1060LMC	.060	.157	1	150
66260392488	+ 1060LFC	.060	.157	1	200
66260392496	1065CC	.065	.157	1/2	100
66260392494	1065FC	.065	.157	1/2	200
66260392502	1070CC	.070	.157	1/2	100
66260392501	1070MC	.070	.157	1/2	150
66260392500	1070FC	.070	.157	1/2	200
66260392508	1070LCC	.070	.157	1	100
66260392507	1070LMC	.070	.157	1	150
66260392506	1070LFC	.070	.157	1	200
66260392514	1075CC	.075	.157	1/2	100
66260392513	1075MC	.075	.157	1/2	150
66260392512	1075FC	.075	.157	1/2	200
66260392520	1080CC	.080	.157	1/2	100
66260392519	1080MC	.080	.157	1/2	150
66260392518	1080FC	.080	.157	1/2	200
66260392526	1080LCC	.080	.157	1	100
66260392525	+ 1080LMC	.080	.157	1	150
66260392524	+ 1080LFC	.080	.157	1	200
66260392532	1085CC	.085	.157	1/2	100
66260392531	1085MC	.085	.157	1/2	150
66260392530	1085FC	.085	.157	1/2	200
66260392538	1090CC	.090	.157	1/2	100
66260392537	1090MC	.090	.157	1/2	150
66260392536	1090FC	.090	.157	1/2	200
66260392544	1090LCC	.090	.157	1	100
66260392543	1090LMC	.090	.157	1	150
66260392542	+ 1090LFC	.090	.157	1	200
66260392550	1095CC	.095	.157	1/2	100
66260392549	1095MC	.095	.157	1/2	150
66260392548	+ 1095FC	.095	.157	1/2	200
66260392556	1100CC	.100	.157	1/2	100
66260392555	1100MC	.100	.157	1/2	150
66260392554	1100FC	.100	.157	1/2	200
66260392562	+ 1100LCC	.100	.157	1	100
66260392561	1100LMC	.100	.157	1	150
66260392560	1100LFC	.100	.157	1	200
66260392568	1105CC	.105	.157	1/2	100
66260392567	1105MC	.105	.157	1/2	150
66260392566	+ 1105FC	.105	.157	1/2	200
66260392574	+ 1105LCC	.105	.157	1	100
66260392573	+ 1105LMC	.105	.157	1	150
66260392572	+ 1105LFC	.105	.157	1	200

continued

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

TARGET MARKET SYMBOLS:



# Mounted Points

## Diamond and CBN Mounted Points ● ▲

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
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### 1000 Series – CBN (continued)

#### 1/8" Shank x 2-1/4" Overall Length

66260392580	1110CC	.110	.157	1/2	100
66260392579	1110MC	.110	.157	1/2	150
66260392578	1110FC	.110	.157	1/2	200
66260392586 *	1110LCC	.110	.157	1	100
66260392585	1110LMC	.110	.157	1	150
66260392584 +	1110LFC	.110	.157	1	200
66260392592 *	1115CC	.115	.157	1/2	100
66260392591	1115MC	.115	.157	1/2	150
66260392590 +	1115FC	.115	.157	1/2	200
66260392598	1120CC	.120	.157	1/2	100
66260392597 *	1120MC	.120	.157	1/2	150
66260392596 +	1120FC	.120	.157	1/2	200
66260392604	1125CC	.125	.157	1/2	100
66260392603	1125MC	.125	.157	1/2	150
66260392602	1125FC	.125	.157	1/2	200
66260392610	1130CC	.130	.197	1	100
66260392609 *	1130MC	.130	.197	1	150
66260392608	1130FC	.130	.197	1	200
66260392616	1135CC	.135	.236	N/A	100
66260392615	1135MC	.135	.236	N/A	150
66260392614 +	1135FC	.135	.236	N/A	200
66260392622	1140CC	.140	.236	N/A	100
66260392621	1140MC	.140	.236	N/A	150
66260392620 +	1140FC	.140	.236	N/A	200
66260392628	1156CC	.156	.236	N/A	100
66260392627	1156MC	.156	.236	N/A	150
66260392626	1156FC	.156	.236	N/A	200
66260392734	1171CC	.171	.236	N/A	100
66260392733	1171MC	.171	.236	N/A	150
66260392732 *	1171FC	.171	.236	N/A	200
66260392740	1187CC	.187	.312	N/A	100
66260392739	1187MC	.187	.312	N/A	150
66260392738	1187FC	.187	.312	N/A	200
66260392746 *	1203CC	.203	.312	N/A	100
66260392745	1203MC	.203	.312	N/A	150
66260392744 +	1203FC	.203	.312	N/A	200
66260392752	1218CC	.218	.312	N/A	100
66260392751	1218MC	.218	.312	N/A	150
66260392750 +	1218FC	.218	.312	N/A	200
66260392758	1250CC	.250	.312	N/A	100
66260392757	1250MC	.250	.312	N/A	150
66260392756 *	1250FC	.250	.312	N/A	200

### 4000 Series – Diamond

#### 1/4" Shank x 3" Overall Length

66260392630	4156CD	.156	.250	1	100
66260392629	4156FD	.156	.250	1	200
66260392634	4187CD	.187	.250	1	100
66260392633	4187FD	.187	.250	1	200
66260392638	4203CD	.203	.250	1	100
66260392637	4203FD	.203	.250	1	200
66260392642	4218CD	.218	.250	1	100
66260392641	4218FD	.218	.250	1	200
66260392646	4236CD	.236	.250	1	100
66260392645	4236FD	.236	.250	1	200
66260392650	4250CD	.250	.250	1	100
66260392649	4250FD	.250	.250	1	200
66260392654	4282CD	.282	.250	N/A	100
66260392653	4282FD	.282	.250	N/A	200
66260392658	4312CD	.312	.375	N/A	100

continued

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
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### 4000 Series – Diamond (continued)

#### 1/4" Shank x 3" Overall Length

66260392657	4312FD	.312	.375	N/A	200
66260392662	4375CD	.375	.375	N/A	100
66260392661	4375FD	.375	.375	N/A	200
66260392666	4390CD	.390	.375	N/A	100
66260392665	4390FD	.390	.375	N/A	200
66260392670	4406CD	.406	.375	N/A	100
66260392669 +	4406FD	.406	.375	N/A	200
66260392674	4437CD	.437	.375	N/A	100
66260392673 *	4437FD	.437	.375	N/A	200
66260392678	4500CD	.500	.375	N/A	100
66260392677	4500FD	.500	.375	N/A	200
66260392682	4730CD	.730	.375	N/A	100
66260392681 *	4730FD	.730	.375	N/A	200
66260392686	4864CD	.864	.375	N/A	100
66260392685 *	4864FD	.864	.375	N/A	200
66260392690	41000CD	1.000	.375	N/A	100
66260392689	41000FD	1.000	.375	N/A	200

### 4000 Series – CBN

#### 1/4" Shank x 3" Overall Length

66260392632	4156CC	.156	.250	1	100
66260392631	4156FC	.156	.250	1	200
66260392636	4187CC	.187	.250	1	100
66260392635	4187FC	.187	.250	1	200
66260392640	4203CC	.203	.250	1	100
66260392639	4203FC	.203	.250	1	200
66260392644	4218CC	.218	.250	1	100
66260392643	4218FC	.218	.250	1	200
66260392648	4236CC	.236	.250	1	100
66260392647	4236FC	.236	.250	1	200
66260392652	4250CC	.250	.250	1	100
66260392651	4250FC	.250	.250	1	200
66260392656	4282CC	.282	.250	N/A	100
66260392655	4282FC	.282	.250	N/A	200
66260392660	4312CC	.312	.375	N/A	100
66260392659	4312FC	.312	.375	N/A	200
66260392664	4375CC	.375	.375	N/A	100
66260392663	4375FC	.375	.375	N/A	200
66260392668	4390CC	.390	.375	N/A	100
66260392667	4390FC	.390	.375	N/A	200
66260392672	4406CC	.406	.375	N/A	100
66260392671	4406FC	.406	.375	N/A	200
66260392676	4437CC	.437	.375	N/A	100
66260392675	4437FC	.437	.375	N/A	200
66260392680	4500CC	.500	.375	N/A	100
66260392679	4500FC	.500	.375	N/A	200
66260392684	4730CC	.730	.375	N/A	100
66260392683	4730FC	.730	.375	N/A	200
66260392688 +	4864CC	.864	.375	N/A	100
66260392687 +	4864FC	.864	.375	N/A	200
66260392692	41000CC	1.000	.375	N/A	100
66260392691 *	41000FC	1.000	.375	N/A	200



# Mounted Points, Mandrels and Tapered Hones

## Diamond and CBN Mounted Points ● ▲

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	GRIT SIZE
<b>6000 Series – Diamond</b>				
<b>3/8" Shank x 3-3/4" Overall Length</b>				
66260392694	6406CD	.406	.375	80
66260392693	6406MD	.406	.375	150
66260392698	6437CD	.437	.375	80
66260392697	6437MD	.437	.375	150
66260392702	6500CD	.500	.375	80
66260392701	6500MD	.500	.375	150
66260392706	6562CD	.562	.375	80
66260392710	6625CD	.625	.375	80
66260392709	6625MD	.625	.375	150
66260392714 *	6687CD	.687	.375	80
66260392713 +	6687MD	.687	.375	150
66260392718	6750CD	.750	.375	80
66260392717	6750MD	.750	.375	150
66260392722 *	6875CD	.875	.400	80
66260392721	6875MD	.875	.400	150
66260392726	61000CD	1.000	.500	80
66260392725	61000MD	1.000	.500	150

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	GRIT SIZE
<b>6000 Series – CBN</b>				
<b>3/8" Shank x 3-3/4" Overall Length</b>				
66260392696	6406CC	.406	.375	80
66260392695	6406MC	.406	.375	150
66260392700	6437CC	.437	.375	80
66260392699	6437MC	.437	.375	150
66260392704	6500CC	.500	.375	80
66260392703	6500MC	.500	.375	150
66260392708	6562CC	.562	.375	80
66260392707 *	6562MC	.562	.375	150
66260392712	6625CC	.625	.375	80
66260392711	6625MC	.625	.375	150
66260392716	6687CC	.687	.375	80
66260392715	6687MC	.687	.375	150
66260392720	6750CC	.750	.375	80
66260392719	6750MC	.750	.375	150
66260392724	6875CC	.875	.400	80
66260392723	6875MC	.875	.400	150
66260392728	61000CC	1.000	.500	80
66260392727	61000MC	1.000	.500	150

### 9000 Series – Diamond

UPC NO.	PRODUCT NO.	HEAD DIAMETER INCHES	HEAD LENGTH	GRIT SIZE
<b>3/4" Shank x 3-3/4" Overall Length</b>				
66260308354	91000CD	1.000	.500	80

## Heavy Stock Removal CBN Mandrels ▲

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles
- Super coarse abrasive grit

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action
- Long tool life

For heavy stock removal on jig, internal and offhand operations on tool steels and hardened aerospace alloys.



UPC NO.	PRODUCT NO.	HEAD DIAMETER	HEAD LENGTH	SHANK DIAMETER	OVERALL LENGTH	GRIT SIZE
<b>HSR Series – CBN</b>						
66260395426	HSR-1/4	1/4	1/4	3/8	3	60
66260395427	HSR-5/16	5/16	5/16	3/8	3	60
66260395428	HSR-3/8	3/8	3/8	3/8	3	60
66260395429	HSR-1/2	1/2	3/8	3/8	3-1/2	60
66260395430 +	HSR-5/8	5/8	3/8	3/8	3-1/2	60
66260395431	HSR-3/4	3/4	3/8	3/8	3-1/2	60
66260395432	HSR-1	1	3/8	3/8	3-1/2	60

## Diamond Tapered Hones for Drawing Dies ● ▲ ■

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

Used primarily for forming carbide drawing dies, but can be used for small hole honing in ceramics, fiberglass, plastics and composite materials.



1/8"



1/4"

UPC NO.	PRODUCT NO.	INCLUDED ANGLE	SHANK DIAMETER	GRIT SIZE
<b>Tapered Hones for Drawing Dies – Diamond</b>				
<b>3" Overall Length</b>				
66260395540	TH12-6MD	6°	1/8	150
66260395541	TH12-8MD	8°	1/8	150
66260363371	TH25-12CD	12°	1/4	100
66260395542	TH12-12MD	12°	1/8	150
66260395543	TH25-12MD	12°	1/4	150
66260395544	TH25-14MD	14°	1/4	150
66260395545	TH25-16MD	16°	1/4	150

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

TARGET MARKET SYMBOLS:



# Micro Drills and Routers

## Diamond Micro Drills ●▲■

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

A modification of Amplex mounted points, these tools are specifically designed for drilling holes in the .007" to .065" diameter range. Perfect for drilling sapphire and high density alumina ceramics for hybrid micro-circuit substrates.

UPC NO.	PRODUCT NO.	DIAMETER INCHES	HEAD LENGTH	OVERALL LENGTH	GRIT SIZE
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### M-Series Micro Drills – Diamond

#### Shank Diameter .040" (1MM)

66260395516	M7	.007	.028	11/16	600
66260395517	M10	.010	.049	11/16	400
66260395518	M12	.012	.056	13/16	325
66260395519	M15	.015	.077	13/16	325

Carefully-sized, uniformly-shaped diamond particles are used on all M-Series drills.



M SERIES



S SERIES

UPC NO.	PRODUCT NO.	DIAMETER INCHES	HEAD LENGTH	NECK LENGTH	GRIT SIZE
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### S-Series Micro Drills – Diamond

#### 1/8" Shank x 1" Overall Length

66260395520	S16FD	.016	.062	.093	200
66260392841	S18FD	.018	.062	.125	200
66260395521	S20FD	.020	.062	.125	200
66260395522	S25FD	.025	.093	.156	200
66260395523	S30MD	.030	.093	.156	150
66260395524	S35MD	.035	.093	.187	150
66260395525	S40MD	.040	.125	.218	150
66260395526	S45CD	.045	.125	.218	100
66260395527	S50CD	.050	.125	.250	100
66260395528	S60CD	.060	.125	.312	100
66260395529	S65CD	.065	.125	.312	100

Recommended for adapting to ultrasonic drill heads.

## Diamond Routers ●■

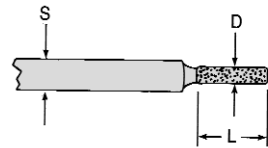
### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

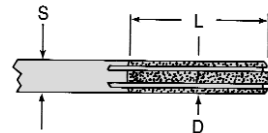
### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

Used with hand operated tools, drill presses and milling machines. Ideal for routing and reaming the highly-abrasive materials of alumina, fiberglass, plastics and other nonmetallic composite materials.



NON-FLUTED ROUTER



FLUTED ROUTER

D = HEAD DIAMETER  
L = LENGTH OF DIAMOND  
S = SHANK DIAMETER

UPC NO.	PRODUCT NO.	HEAD DIAMETER	LENGTH OF DIAMOND	SHANK DIAMETER	OVERALL LENGTH	GRIT SIZE
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### Non-Fluted Routers – Diamond

66260364305	RNF1812CD	1/8	1/2	1/4	2-1/2	60
66260364304	RNF1810CD	1/8	1	1/4	2-1/2	60
66260364303 +	RNF1412CD	1/4	1/2	1/4	2-1/2	40
66260364302	RNF1410CD	1/4	1	1/4	2-1/2	40
66260302707 +	RNF3812CD	3/8	1/2	1/2	2-1/2	40
66260302709 +	RNF3810CD	3/8	1	1/2	2-1/2	40
66260302711 +	RNF1212CD	1/2	1/2	1/2	2-1/2	40
66260302712 *	RNF1210CD	1/2	1	1/2	2-1/2	40
66260302714	RNF3412CD	3/4	1/2	1/2	2-1/2	40
66260302717 +	RNF3410CD	3/4	1	1/2	2-1/2	40
66260364301 +	RNF1012CD	1	1/2	1/2	2-1/2	40
66260302720 *	RNF1010CD	1	1	1/2	2-1/2	40
66260302721 +	RNF11212CD	1-1/2	1/2	1/2	3	40
66260302725 +	RNF2012CD	2	1/2	1/2	3	40
66260302728 +	RNF2010CD	2	1	1/2	3	40

### Fluted Routers – Diamond

66260364310	RSF1812CD	1/8	1/2	1/4	2-1/2	60
66260364309	RSF1810CD	1/8	1	1/4	2-1/2	60
66260364308	RSF1412CD	1/4	1/2	1/4	2-1/2	40
66260364307	RSF1410CD	1/4	1	1/4	2-1/2	40
66260302710 +	RSF3810CD	3/8	1	1/2	2-1/2	40
66260364306 *	RSF1212CD	1/2	1/2	1/2	2-1/2	40
66260302713 *	RSF1210CD	1/2	1	1/2	2-1/2	40
66260302715	RSF3412CD	3/4	1/2	1/2	2-1/2	40
66260302716 +	RSF3410CD	3/4	1	1/2	2-1/2	40
66260302718 +	RSF1012CD	1	1/2	1/2	2-1/2	40
66260302719 +	RSF1010CD	1	1	1/2	2-1/2	40
66260302722 +	RSF11212CD	1-1/2	1/2	1/2	3	40
66260302724 +	RSF11210CD	1-1/2	1	1/2	3	40
66260302726 +	RSF2012CD	2	1/2	1/2	3	40
66260302727 +	RSF2010CD	2	1	1/2	3	40

# Mounted Contour Tools

## Diamond and CBN Mounted Contour Tools ●▲■

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles
- Variety of tool shapes available as stock

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action
- Satisfies most tool and die and deburring requirements

For contour grinding applications on carbide, ceramics, glass, ferrites, and many tough alloys and cements. Best suited for blending radii and deburring operations. Operating speeds: 15,000-20,000 RPM range.



CONES



BALL ENDS (SPHERICAL)



ROUND END TAPERS



ROUND END CYLINDERS

UPC NO.	PRODUCT NO.	CONE BASE DIAMETER	INCLUDED ANGLE	CONE LENGTH	GRIT SIZE
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### Cones – Diamond

#### 1/8" Shank x 2" Overall Length

66260395484	C14CD	1/8	14°	1/2	100
66260395486	C26CD	3/16	26°	13/32	100
66260395488	C35CD	5/32	35°	1/4	100
66260395490	C60CD	11/64	60°	5/32	100
66260395492	C90CD	3/16	90°	3/32	100

### Cones – CBN

#### 1/8" Shank x 2" Overall Length

66260395483	C14CC	1/8	14°	1/2	100
66260395485	C26CC	3/16	26°	13/32	100
66260395487	C35CC	5/32	35°	1/4	100
66260395489	C60CC	11/64	60°	5/32	100
66260395491	C90CC	3/16	90°	3/32	100

UPC NO.	PRODUCT NO.	BALL DIAMETER	GRIT SIZE
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### Ball Ends (Spherical) – Diamond

#### 1/8" Shank x 2" Overall Length

66260395434	BE1CD	3/64	100
66260395436	BE2CD	1/16	100
66260395438	BE3CD	5/64	100
66260395440	BE4CD	3/32	100
66260395442	BE5CD	1/8	100
66260395444	BE6CD	3/16	100
66260395446	BE7CD	1/4	100
66260395448	BE8CD	3/8	100
66260395450	BE9CD	1/2	100

### Ball Ends (Spherical) – CBN

#### 1/8" Shank x 2" Overall Length

66260395433	BE1CC	3/64	100
66260395435	BE2CC	1/16	100
66260395437	BE3CC	5/64	100
66260395439	BE4CC	3/32	100
66260395441	BE5CC	1/8	100
66260395443	BE6CC	3/16	100
66260395445	BE7CC	1/4	100
66260395447 +	BE8CC	3/8	100
66260395449 *	BE9CC	1/2	100

UPC NO.	PRODUCT NO.	SMALL HEAD DIAMETER	LARGE HEAD DIAMETER	HEAD LENGTH	INC. ANGLE	GRIT SIZE
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### Round End Tapers – Diamond

#### 1/8" Shank x 2" Overall Length

66260395506	RT44CD	.044	.066	5/16	4°	100
66260395508	RT60CD	.060	.082	5/16	4°	100
66260395510	RT78CD	.078	.110	5/16	6°	100

### Round End Tapers – CBN

#### 1/8" Shank x 2" Overall Length

66260395505	RT44CC	.044	.066	5/16	4°	100
66260395507 +	RT60CC	.060	.082	5/16	4°	100
66260395509	RT78CC	.078	.110	5/16	6°	100

UPC NO.	PRODUCT NO.	HEAD DIAMETER	HEAD LENGTH	GRIT SIZE
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### Round End Cylinders – Diamond

#### 1/8" Shank x 2" Overall Length

66260395494	RE1CD	1/16	1/4	100
66260395496	RE2CD	5/64	1/4	100
66260395498	RE3CD	3/32	1/4	100
66260395500	RE4CD	1/8	1/4	100
66260395502	RE5CD	3/16	5/16	100
66260395504	RE6CD	1/4	5/16	100

### Round End Cylinders – CBN

#### 1/8" Shank x 2" Overall Length

66260395493	RE1CC	1/16	1/4	100
66260395495	RE2CC	5/64	1/4	100
66260395497 *	RE3CC	3/32	1/4	100
66260395499	RE4CC	1/8	1/4	100
66260395501 *	RE5CC	3/16	5/16	100
66260395503 +	RE6CC	1/4	5/16	100

TARGET MARKET SYMBOLS:



\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.



# Grinding Wheels and Files

## Type 6A2C Diamond Cup Wheels ●▲

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

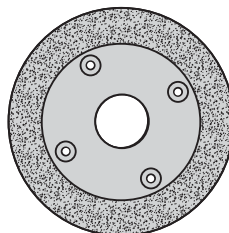
*Extremely fast acting wheels for coarse work (100 grit) and fine finishing (200 grit) of carbide tool bits, etc.*

UPC NO.	PRODUCT NO.	DIMENSIONS D X T X H	DESCRIPTION	GRIT SIZE
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### Type 6A2C Cup Wheels with Mounting Holes, Rim 1" – Diamond

66260300203	6A2CCD	6 x 7/16 x 1-1/4	6A2C Cup Wheel	100
66260300202	6A2CFD	6 x 7/16 x 1-1/4	6A2C Cup Wheel	200
66260302135		6 x 5/16 x 1-1/4	Back-up Plate 6"	

*Four 9/32" holes on a 3-1/4" Bolt Circle.*



## Type 1A1 Diamond Bench and Pedestal Wheels ●▲

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles
- Bakelite core
- Maintains flat on O.D.

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action
- Lightweight
- Adaptable to standard bench grinders
- Eliminates down time for dressing

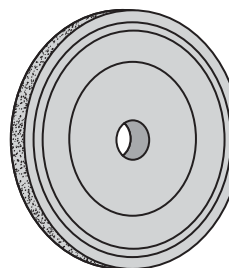
*Ideal for off-hand grinding. These wheels stay flat without dressing for accurate tool edges. Grind carbide, ceramic and other materials more cost effectively than with conventional silicon carbide abrasive wheels. Available in two grit sizes; 100 grit for roughing and 200 grit for finishing.*

UPC NO.	PRODUCT NO.	DIMENSIONS D X T X H	MAX. RPM	GRIT SIZE
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### Type 1A1 Bench and Pedestal Wheels – Diamond

66260302087	1A1PG-CD	6 x 1 x 1	7,635	100
66260302086	1A1PG-FD	6 x 1 x 1	7,635	200

*1/2", 5/8", 3/4" and 7/8" center hole reducing bushings are included.*



## Diamond Machine Files ●▲

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*For use in reciprocating hand profiling machines. Ideal for reworking and finishing of carbide dies and molds, blending radii, and deburring and cleaning of slots and grooves.*



UPC NO.	PRODUCT NO.	DIMENSIONS	ABRASIVE LOCATION	GRIT SIZE
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### Machine Files – Diamond

#### 5/8" Diamond Length, 1/8" Shank, 2" Overall Length

66260395585	1ECD	.020 x .125		100
66260395586	2ECD	.030 x .125		100
66260395587	3ECD	.040 x .125		100
66260395588 *	2FCD	.079 x .040		100

*continued*

UPC NO.	PRODUCT NO.	DIMENSIONS	ABRASIVE LOCATION	GRIT SIZE
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### Machine Files – Diamond (continued)

#### 5/8" Diamond Length, 1/8" Shank, 2" Overall Length

66260395589	3FCD	.120 x .040		100
66260395590	4FCD	.157 x .040		100
66260395591	5FCD	.203 x .078		100
66260395592	6FCD	.120 x .040		100
66260395593	1CCD	.098 x .196		100
66260395594	2CCD	.120 x .250		100
66260395595	2TCD	.078 side		100
66260395596	3TCD	.127 side		100
66260395597	4TCD	.157 side		100
66260395598	1RCD	.042 diam.		100
66260395599	2RCD	.080 diam.		100
66260395600	3RCD	.127 diam.		100
66260395601	4RCD	.157 diam.		100
66260395602 *	1HRCD	.040 radius		100
66260395603	2HRCD	.060 radius		100
66260395604	3HRCD	.078 radius		100

## Diamond Hand Files ● ▲

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*Indispensable aid for the toolroom. All purpose hand-held tool useful for deburring, notching, dressing and honing of hard, brittle materials.*



UPC NO.	PRODUCT NO.	DIMENSIONS	ABRASIVE LOCATION	GRIT SIZE
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### Hand Files – Diamond

#### 6" Overall Length, 1-1/2" Diamond Length

66260395605	DF1CD	1/8 x 1/8		100
66260392842 +	DF1FD	1/8 x 1/8		200
66260395606	DF2CD	1/8 x 1/4		100

continued

## Diamond Needle Files ● ▲

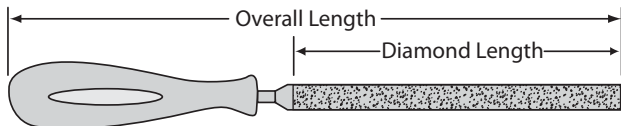
### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*Indispensable aid for the toolroom. An all purpose hand-held tool, useful for deburring, notching, dressing and honing of hard, brittle materials.*



UPC NO.	PRODUCT NO.	DIMENSIONS	ABRASIVE LOCATION	SHAPE	GRIT SIZE
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### Needle Files – Diamond

#### 4-1/4" Diamond Length, 8-1/2" Overall Length

66260302432	LNF2CD	.400 x .100		Equaling	100
66260305611	LNF2FD	.400 x .100		Equaling	200
66260302898	LNF3CD	.45 x .150		Half Round	100
66260305612	LNF3FD	.485 x .150		Half Round	200

#### 2-3/4" Diamond Length, 5-3/4" Overall Length, With Handle

66260391729	1571	.055 x .190		Flat	100
66260391730	1572	.075 x .210		Half Round	100
66260391731	1573	.145 x .145		Triangle	100
66260391732	1574	.100 x .100		Square	100
66260391733	1575	.120		Round	100
66260391734	1576	.055 x .190		Pointed Flat	100

#### 3" Diamond Length, 5-1/2" Overall Length, With Handle

66260395575	NF1FD	.150 x .105		Oval	200
66260395576	NF2FD	.218 x .072		Half Round	200
66260395577	NF3FD	.205 x .058		Equaling	200
66260395578	NF4FD	.096 x .096		Square	200

UPC NO.	PRODUCT NO.	DIMENSIONS	ABRASIVE LOCATION	GRIT SIZE
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### Hand Files – Diamond (continued)

#### 6" Overall Length, 1-1/2" Diamond Length

66260392843	DF2FD	1/8 x 1/4		200
66260395607	DF2WCD	1/8 x 1/4		100
66260395608	DF3CD	1/8 x 3/8		100
66260392844	DF3FD	1/8 x 3/8		200
66260395609	DF3WCD	1/8 x 3/8		100
66260364241	DF3SCD	1/8 x 1/2		100
66260395611	DF4CD	1/8		100
66260392845 +	DF4FD	1/8		200
66260300134	DF4WCD	1/4		100
66260395613	DF5CD	1/8		100
66260392846	DF5FD	1/8		200
66260395614	DF5WCD	1/4		100
66260395615	DF6CD	1/8		100
66260392847	DF6FD	1/8		200

UPC NO.	PRODUCT NO.	DIMENSIONS	ABRASIVE LOCATION	SHAPE	GRIT SIZE
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### Needle Files – Diamond (continued)

#### 3" Diamond Length, 5-1/2" Overall Length, With Handle

66260395579	NF5FD	.138 x .138		Triangle	200
66260395580	NF6FD	.118		Round	200
66260395581	NF7FD	.197 x .088		Crossing	200
66260395582	NF8FD	.205 x .067		Barrette	200

UPC NO.	PRODUCT NO.	GRIT SIZE
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### NFK-6 Needle File Kit – Diamond

66260364008	NFK-6	contains one each of the following:
	NF1FD	200
	NF2FD	200
	NF3FD	200
	NF4FD	200
	NF5FD	200
	NF6FD	200

### DFS-6 Die File Kit – Diamond

66260391830	DFS-6	contains one each of the following:
	1571	100
	1572	100
	1573	100
	1574	100
	1575	100
	1576	100

### Needle File Shape and Application Key:

- Barrette:** a triangle with diamond on the bottom side only
- Crossing:** elongated oval, with more pointed ends than an Oval file; has diamonds all around
- Equaling:** a rectangle with diamond on all four sides; ideal for filing both sides of an ID simultaneously
- Pointed Flat:** a cone with a flat top with diamond on the sides of the cone

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

TARGET MARKET SYMBOLS:



# Drills

## Diamond Core Drills ● ■

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*High performance on glass and ceramic applications while providing fast, reliable cutting. Submersed drilling is highly recommended for optimum operating performance.*



UPC NO.	PRODUCT NO.	OUTER DIAMETER	INNER DIAMETER	GRIT SIZE
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### Core Drills – Diamond

#### Straight Tube Type, 2" Overall Length

66260395530	A1MD	1/16	.023	150
66260395531	A2MD	3/32	.048	150
66260395532	A3MD	1/8	.075	150
66260395533	A4MD	5/32	.110	150
66260395534	A5CD	3/16	.140	100
66260395535	A6CD	1/4	.195	100
66260395536	A7CD	5/16	.255	100
66260395537	A8CD	3/8	.325	100
66260395538 *	A9CD	7/16	.373	80
66260395539	A10CD	1/2	.398	80

## Diamond Mounted Core Drills ● ■

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles
- Removable pilot (bulb-like extension)

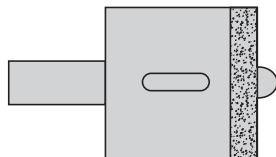
### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action
- Provides added stability
- Ensures smooth drilling with less wobbling

- 1/8" wraps: additional 1/8" of electroplated diamond on the blade core

- Increase life of blade on deep cuts, reduces binding and grinding on the core

*High performance results on glass and ceramic applications.*



UPC NO.	PRODUCT NO.	OUTER DIAMETER	PILOT DIAMETER	GRIT SIZE
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### Mounted Core Drills – Diamond

#### 1/8" Wrap, 3/8" Shank Diameter, 3.45" Overall Length

66260392849	CD.500	1/2	1/8	40
66260392850	CD.750	3/4	1/4	40
66260392851	CD1.000	1	1/4	40
66260392852	CD1.250	1-1/4	1/4	40
66260392853	CD1.500	1-1/2	1/4	40
66260392854 *	CD2.000	2	1/4	40

*Pilots are removable.*

## Diamond Twist Drills ● ■

### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*Recommended for precision drilling on circuit boards containing fiberglass, asbestos, nylon and similar tough, abrasive materials. Diamond twist drills are also useful for drilling plastics and resin composites and have been successful in drilling soft ductile materials as well as "green" carbide. Operating procedures are similar to those of standard twist drills.*



UPC NO.	PRODUCT NO.	DRILL DIAMETER	DRILL LENGTH	GRIT SIZE
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### Twist Drills – Diamond

66260395549	TW-1/16	1/16	1-3/4	100
66260395550	TW-1/8	1/8	2-3/4	100
66260395551	TW-1/4	1/4	4	100
66260395552	TW-3/8	3/8	5	100
66260395553	TW-1/2	1/2	6	100

*Diameter tolerance equals + or - 1/64.*

## Diamond Continuous Rim Cut-off Saw Blades ■

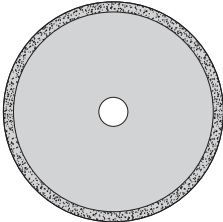
### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*Ideal for cutting-off highly-abrasive materials such as alumina, fiberglass, plastics and other nonmetallic composite materials.*



**Additional Diamond Slotted and Continuous Rim Cut-off Saw Blades, with extended wraps to avoid binding, are available as made-to-order products. Please contact your distributor or Amplex Customer Service.**

UPC NO.	PRODUCT NO.	DIAMETER	OVERALL THICKNESS	HOLE	GRIT SIZE
<b>Continuous Rim Cut-off Saw Blades – Diamond</b>					
66260301990	DS2062-250	2	1/16	1/4	40
66260391474	DS2094-250	2	3/32	1/4	40
66260391473	DS3094-250	3	3/32	1/4	40
66260363036	DS3094-375	3	3/32	3/8	40
66260395554	DS4094-500	4	3/32	1/2	40
66260300197	DS4094-750	4	3/32	3/4	40
66260312207 *	DS5094-500	5	3/32	1/2	40
66260395555 +	DS6094-500	6	3/32	1/2	40
66260395556 +	DS7062-500	7	1/16	1/2	40
66260395557	DS8094-625	8	3/32	5/8	40
66260391464 +	DS10125-625	10	1/8	5/8	40

*Hole sizes can be altered at an additional charge per wheel.*

## Diamond Slotted Cut-off Saw Blades ■

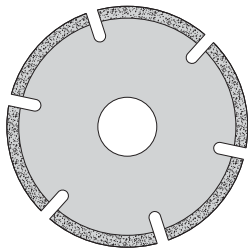
### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles
- 3/4" wraps: additional 3/4" of electroplated diamond on the blade core

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action
- Increase life of blade on deep cuts, reduces binding and grinding on the core

*Ideal for cutting-off highly abrasive materials such as alumina, fiberglass, plastics and other nonmetallic composite materials.*



UPC NO.	PRODUCT NO.	DIAM.	OVERALL THICKNESS	HOLE SIZE	GRIT SIZE
<b>Slotted Cut-off Saw Blades – Diamond</b>					
66260301989	DSS2062-250	2	1/16	1/4	40
66260364258	DSS3094-250	3	3/32	1/4	40
66260363015	DSS4094-375	4	3/32	3/8	40
66260395559	DSS4094-500	4	3/32	1/2	40
66260300360	DSS4094-750	4	3/32	3/4	40
66260395560	DSS6094-500	6	3/32	1/2	40
66260395561 *	DSS8094-500	8	3/32	1/2	40
66260362981	DSS10125-625	10	1/8	5/8	40
66260395563	DSS12125-500	12	1/8	1/2	40
66260362985 *	DSS12125-1	12	1/8	1	40
66260364253	DSS14156-500	14	5/32	1/2	40
66260362989	DSS14156-1	14	5/32	1	40
66260395565	DSS16156-1	16	5/32	1	40
66260395566	DSS18156-1	18	5/32	1	40
66260395567 +	DSS20156-1	20	5/32	1	40

**new!**

### Slotted Cut-off Saw Blades with 3/4" wraps – Diamond

66260313421	DSSW3094-250	3	3/32	1/4	40
66260313422	DSSW4094-500	4	3/32	1/2	40
66260313423	DSSW4094-750	4	3/32	3/4	40
66260313428	DSSW4094-1000	4	3/32	1	40
66260313432	DSSW5094-500	5	3/32	1/2	40
66260313433	DSSW5094-750	5	3/32	3/4	40
66260313434	DSSW5094-1000	5	3/32	1	40

*Hole sizes can be altered at an additional charge per wheel.*

## Diamond Mounted Saw Blades ■

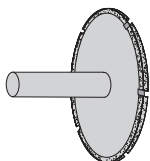
### FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

### BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

*Ideal for cutting off highly abrasive materials such as alumina, fiberglass, plastics and other nonmetallic composite materials.*



UPC NO.	PRODUCT NO.	DIAMETER	OVERALL THICKNESS	SHANK DIAMETER	GRIT SIZE
<b>Mounted Saw Blades – Diamond</b>					
<b>2" Overall Length</b>					
66260395422	MDS1CD	1	3/32	1/4	40
66260395423	MDS1-1/2CD	1-1/2	3/32	1/4	40
66260395424	MDS2CD	2	3/32	3/8	40
66260395425	MDS3CD	3	1/8	1/2	40

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

**TARGET MARKET SYMBOLS:**



# Flexible Diamond Hand Pads

## Diamond Hand Pads ● ▲ ■

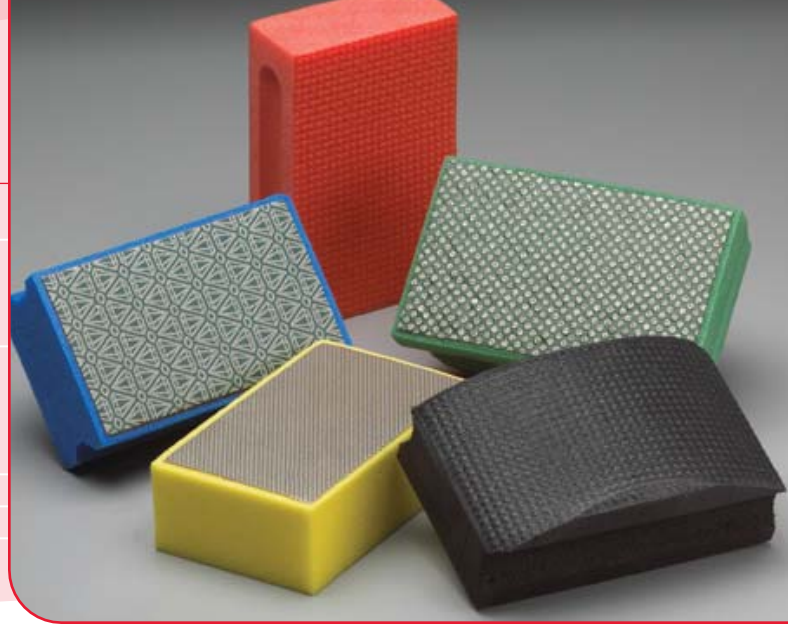
### FEATURES

- Lightweight conformable backing
- Uniformly distributed diamond particles in a precision dot pattern
- Ease of use
- Color coded

### BENEFITS

- Adapts to a variety of surface shapes
- Durable
- Can be used wet or dry
- Aggressive, consistent cut rate
- Rapid stock removal
- Uniform finishes
- No dressing required
- Reduces loading and dust
- Less tool changes
- Eases identification

*Shaping and rapid stock removal, touch up and repair on ceramics, stone, marble, glass, composites and hard metals. Also used for polishing dies and molds. Can be used wet or dry.*



UPC NO.	PRODUCT NO.	DIMENSIONS	COLOR	GRIT SIZE
<b>Hand Pads – Diamond</b>				
66260306360	HP60	3-1/2 x 2-1/8	Green	60
66260306361	HP120	3-1/2 x 2-1/8	Black	120
66260306362	HP200A	3-1/2 x 2-1/8	Red	200

*continued*

UPC NO.	PRODUCT NO.	DIMENSIONS	COLOR	GRIT SIZE
<b>Hand Pads – Diamond (continued)</b>				
66260305852	HP400	3-1/2 x 2-1/8	Yellow	400
66260306363	HP800	3-1/2 x 2-1/8	White	800
66260306364	HP1800	3-1/2 x 2-1/8	Blue	1800
66260307720	HPK-6	3-1/2 x 2-1/8	Kit	(one each of above)

## Made-to-Order Flexible Diamond Products

- Start here when an application requires a flexible diamond product that is not available from our extensive stock offering.
- Shapes, sizes and grits have been pre-selected to meet the widest variety of standard and emerging applications.
- Contact your Amplex distributor for current pricing and availability.



PRODUCT SHAPE/TYPE	SIZES	COLOR	GRIT SIZE
Discs – PSA and Hook & Loop	Up to 24" Diameter	Gray	40/50 MESH
		Green	60/70 MESH
		Black	120/140 MESH
		Yellow	30/40 MIC
		White	20/30 MIC
		Blue	6/12 MIC
Discs – Speed-Lok	Up to 4"	Gray	40/50 MESH
		Green	60/70 MESH
		Black	120/140 MESH
		Red	200/230 MESH
		Yellow	30/40 MIC
		White	20/30 MIC
Sheets – PSA	3" x 3" 6" x 1" 9" x 11"	Green	60/70 MESH
		Black	120/140 MESH
		Red	200/230 MESH
		Yellow	30/40 MIC
Sheets – Hook & Loop	6-5/8" x 3-1/2" 8-1/4" x 4-3/4"	Green	60/70 MESH
		Black	120/140 MESH
		Red	200/230 MESH
		Yellow	30/40 MIC
Belts	Up to 12" wide x 200' long	Gray	40/50 MESH
		Green	60/70 MESH
		Black	120/140 MESH
		Red	200/230 MESH
		Yellow	30/40 MIC
		White	20/30 MIC
		Blue	6/12 MIC



# Flexible Diamond PSA Discs

## Flexible Diamond PSA Discs ● ▲ ■

### FEATURES

- Sharp diamond particles
- PSA (pressure sensitive adhesive) backing

### BENEFITS

- Fast stock removal
- Quick, easy mounting and removal

The most common materials to be ground are glass, ceramics, and composites. The discs can also be used to remove scale and rust on other materials, and to produce metallurgical stamps and coupons.

UPC NO.	PRODUCT NO.	DIMENSIONS	COLOR	GRIT SIZE
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### Flexible PSA Discs – Diamond

66260308159	FDD2P60	2" x no hole	Green	60
66260307722	FDD2P120	2" x no hole	Black	120
66260307723	FDD2P200	2" x no hole	Red	200
66260308160	FDD2P400	2" x no hole	Yellow	400
66260307012	FDD2P800	2" x no hole	White	800
66260306366	FDD3P60	3" x no hole	Green	60
66260306367	FDD3P120	3" x no hole	Black	120
66260306368	FDD3P200	3" x no hole	Red	200
66260307957	FDD3P400	3" x no hole	Yellow	400
66260306369	FDD3P800	3" x no hole	White	800
66260307839	FDD5P60	5" x no hole	Green	60
66260307838	FDD5P120	5" x no hole	Black	120
66260307019	FDD5P200	5" x no hole	Red	200
66260307960	FDD5P400	5" x no hole	Yellow	400
66260306381	FDD6P60	6" x no hole	Green	60
66260306382	FDD6P120	6" x no hole	Black	120
66260306383	FDD6P200	6" x no hole	Red	200
66260308161	FDD6P400	6" x no hole	Yellow	400
66260306389	FDD8P60	8" x no hole	Green	60
66260306387	FDD8P120	8" x no hole	Black	120

continued

## Flexible Diamond Speed-Lok TR Discs ● ▲

### FEATURES

- Unique abrasive pattern
- Speed-Lok TR fastener

### BENEFITS

- Increased aggressiveness, durability and lower costs versus standard diamond discs
- Rapid tool-free change means maximum grind time
- Discs stay firmly locked to back-up pad when in use

Grinding ceramics, glass, composites, fiberglass, reinforced plastics, carbide and other tough metals and coatings.

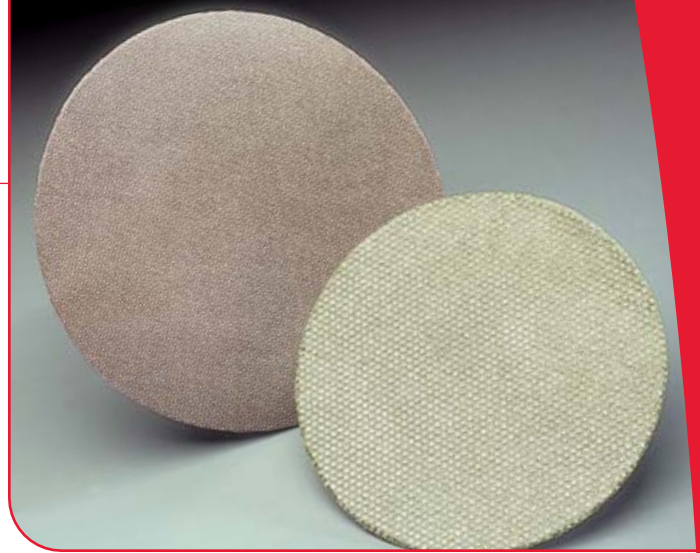
UPC NO.	PRODUCT NO.	DIMENSIONS	COLOR	GRIT SIZE
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### Flexible Speed-Lok TR Discs – Diamond

66260311778	FDD2SL60	2" TR	Green	60
66260311779	FDD2SL120	2" TR	Black	120
66260311780	FDD2SL200	2" TR	Red	200
66260311781	FDD2SL400	2" TR	Yellow	400
66260311782	FDD2SL800	2" TR	White	800

continued

TARGET MARKET SYMBOLS:



UPC NO.	PRODUCT NO.	DIMENSIONS	COLOR	GRIT SIZE
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### Flexible PSA Discs – Diamond (continued)

66260306388	FDD8P200	8" x no hole	Red	200
66260311769	FDD8P400	8" x no hole	Yellow	400
66260306386	FDD8P800	8" x no hole	White	800
66260306390	FDD8P1800	8" x no hole	Blue	1800
66260311771 *	FDD10P60	10" x no hole	Green	60
66260311772 *	FDD10P120	10" x no hole	Black	120
66260311773 *	FDD10P200	10" x no hole	Red	200
66260311774 *	FDD10P400	10" x no hole	Yellow	400
66260311775 *	FDD10P800	10" x no hole	White	800
66260311776 *	FDD10P1800	10" x no hole	Blue	1800
66260306391 *	FDD12P60	12" x no hole	Green	60
66260306392 *	FDD12P120	12" x no hole	Black	120
66260306393 +	FDD12P200	12" x no hole	Red	200
66260311777 +	FDD12P400	12" x no hole	Yellow	400
66260306394 *	FDD12P800	12" x no hole	White	800
66260306395 +	FDD12P1800	12" x no hole	Blue	1800



UPC NO.	PRODUCT NO.	DIMENSIONS	COLOR	GRIT SIZE
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### Flexible Speed-Lok TR Discs – Diamond

66260311783	FDD3SL60	3" TR	Green	60
66260311784	FDD3SL120	3" TR	Black	120
66260311785	FDD3SL200	3" TR	Red	200
66260311786	FDD3SL400	3" TR	Yellow	400
66260311787	FDD3SL800	3" TR	White	800


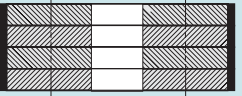






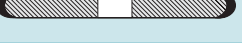
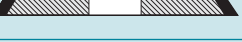

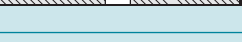
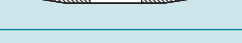





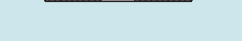
\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.


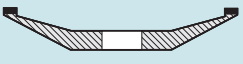
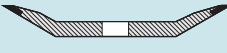
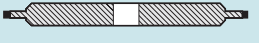
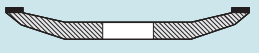





+ Available as stock while supplies last; then available as made-to-order.



# Resinoid-Bond Products – General Information

## Wheel Type Index

PRODUCT SHAPE	PRODUCT TYPE	STOCK PAGE #	AMPLEX EXPRESS PAGE #
	1A1	21, 23, 24	28
	1A1 ASSEMBLY	–	29
	1A1R	21, 23, 24	29
	1A8	–	30
	1B1	–	30
	1E1	–	30
	1EE1	–	31
	1F1	–	31
	1FF1	–	32
	1V1	–	32
	2A2T	–	33
	3A1	–	34
	4A2P	21	34
	4Y1	–	35
	6A2	–	35
	6A2C	21, 23	36
	6A2H	21	–
	6A9	–	37
	11A2	21	37

PRODUCT SHAPE	PRODUCT TYPE	STOCK PAGE #	AMPLEX EXPRESS PAGE #
	11V9	20, 22 – 25	38
	12A2	22, 25	39
	12V9	22, 25	39
	14A1	–	40
	15A2	–	40
	15V4	–	41
	15V9	22, 25	41
	DW	20, 24	–
	HH1	23	–
	HH2	23	–

## techtips

### Coolant – Diamond

Coolant should always be directed so that the full flow is at the point of contact between the diamond wheel and the work piece, and in the same direction as the rotation of the wheel.

Soluble oil may be mixed with water to prevent corrosion of machine parts. Weak solutions are recommended, however, because strong alkaline solutions will reduce normal life of resinoid wheels.

Caution: When ordering resinoid-bond wheels, specify for wet or dry grinding. Some resinoid-bond wheels are made for dry grinding only, and a coolant will only prove detrimental to the life of these wheels.

### Coolant – CBN

Flood coolant should be used whenever possible. The use of enriched solutions (5-10%) of “heavy-duty” water soluble oils is effective in extending CBN wheel life.

# Resinoid-Bond Products – General Information

## Selection Guidelines

Diamond and CBN are both superabrasives designed to grind a variety of hardened materials.

### DIAMOND GRINDS:

- Carbide
- Glass
- Composites
- Fiberglass
- Plastics
- Ceramics
- Electronic components and materials
- Abrasives
- Stone

### CBN GRINDS:

- High-speed tool steels
- Die steel
- Hardened carbon steels
- Hardened stainless steel
- Alloy steels
- Aerospace alloys
- Abrasion-resistant ferrous metals

### RULE OF THUMB

Use CBN on ferrous material. Use Diamond on non-ferrous material.

## Abrasive Type

- ND** Coated synthetic diamond – most versatile and durable of the diamond types (wet/dry applications); ideal for carbon/steel applications
- MD** Synthetic diamond – used when freer cutting is desired (wet/dry applications) and low horse power (3/4 hp or less)
- CB** Cubic Boron Nitride (CBN) – coated to aid in crystal retention (wet/dry applications)

## Grit Size

- 100 Roughing  
 120 Cutting-off  
 150, 180 Medium stock removal plus good finish  
 220, 320 Finishing  
 400 Fine finishing

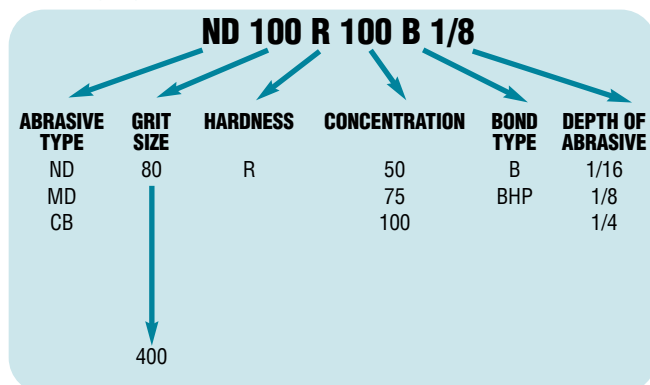
## Concentration

- 50 Free cutting – most economical for broad area of contact
- 75 General purpose
- 100 Most durable – best form holding

## Depth of Superabrasive

- 1/16                      1/8                      1/4

## Marking System



## Stock Product Offering

Look here first when your application calls for a standard wheel shape.

Use the industry's most extensive stock offering for your wheel requirements. Many wheels are available for same day delivery.

**PREMIER RED BEST** - These premium quality dry grinding wheels have a self-lubricating bond that prevents loading and conducts heat away from the grinding surface. These free- and cool-cutting wheels significantly increase tool life, eliminate heat damage to the workpiece and consistently produce tools with sharp edges and longer life than other superabrasive wheels.

**AMP BETTER** - Manufactured to satisfy the quality and availability demands of tool reconditioning applications.

**THRIFTLINE GOOD** - This economical, focused diamond wheel offering allows us to provide quality wheels at low prices by mass producing a select group of specifications. Ideal for the occasional user or when initial price is the main consideration.

## New! Amplex Express Made-to-Order Service

When your application calls for a wheel that is not available from stock, build your own wheel. This new resinoid-bond diamond and CBN express service includes fast lead-times for more than 50,000 made-to-order wheels.

Amplex Express encompasses:

- A wide assortment of wheel shapes and sizes
- Diamond or CBN abrasive, in resinoid bonds
- Grits from 80 to 400
- Concentration choices
- Competitive pricing – even when compared to stock
- Two weeks lead-time from your order to factory shipment for 12" and less diameter wheels. Standard lead-times for larger wheels
- See pages 25 – 41 for complete details

**Call your local Amplex distributor for custom ordering guidelines.**

# Resinoid-Bond Products – General Information

## Diamond and CBN Wheel Mounting, Truing and Dressing Guide

To achieve the best results using Amplex diamond and CBN products, the following steps for mounting, truing and dressing should be practiced:

### MOUNTING – Putting Wheel on Machine Spindle

- Examine wheel flanges and spindle carefully.
- Be sure flanges' surfaces are clean and free of damage.
- Ensure that the mounting flanges are flat and of equal diameter, especially on wheels with rigid centers.
- Inspect machine spindle for excessive runout.
  - TIR (Total Indicated Runout) should be no greater than 0.0002".
- Mount wheel between hand-tightened flanges.
- Using a dial indicator, tap the wheel lightly with a rubber or wooden block to minimize runout to less than .0010".
- Tighten flange securely and recheck with indicator.
- Allow a newly mounted wheel to operate for one full minute before grinding.
- The use of one permanent mounting for the life of the wheel is recommended whenever possible:
  - If the grinding machine has a tapered spindle, mount each straight, flaring cup or dish wheel on a separate collet or adapter.
  - When changing wheels the entire unit is removed, keeping the wheel in running truth.
  - When needed again, the entire unit can be placed directly on the spindle or arbor, thereby eliminating the time and abrasive lost in retruing.

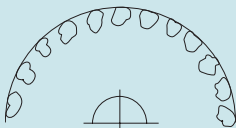
### TRUING – Making Wheel Round and Concentric with the Spindle Axis

- Prior to truing the wheel, run a wax crayon over the wheel face. Important: Do not use any liquid based ink on superabrasive wheels.
- Any crayon left on the wheel face after truing will reveal untrued areas.
- Amplex Brake Controlled Truing Devices are most commonly used to true Diamond and CBN straight, cup and cylinder wheels.
  - Mount the device spindle parallel to the wheel spindle to ensure proper straight face truing.
  - For cup wheels, the device spindle will be mounted perpendicular to the wheel spindle.
  - Always use Brake Controlled Truing Device dry.
  - Bring the diamond/CBN wheel and the truing wheel together until they almost touch.
  - Start the diamond/CBN wheel to normal speed; start the truing wheel in the same direction.
  - Bring the two wheels together until they touch.
  - Make sure the truing wheel is spinning at time of contact.
  - Traverse the wheel back and forth at 30 to 60 inches per minute.
  - Downfeed .0005" to .001" at the end of each traverse.
  - At the end of truing, the diamond/CBN wheel should be smooth and in truth.
  - See the "Diamond Tool" section for Brake Controlled Truing Devices and wheel operating recommendations.

### DRESSING – Opening the Face of a Trued Wheel

- Dressing the abrasive – a cleaning/sharpening process to expose sharp, free-cutting grit:
  - For resinoid and vitrified bond wheels, the dressing stick should be one or two grit sizes finer than the abrasive in the diamond/CBN wheel – in a soft grade such as H or I.
  - For metal bond wheels, choose a stick with the same grit or one grit coarser than the wheel abrasive – in a medium grade (K – M).
  - See the "Dressing Stick" section for recommendations.
- Dressing the core – The core material (the part of the wheel that holds and supports the abrasive-bearing section) should never contact the workpiece during grinding; rubbing will generate excessive heat. As the abrasive section of a cup wheel wears, the core material may become exposed, necessitating dressing.
  - Use a single-point carbide or steel tool to dress an exposed resaloy core.
  - Clamp the tool in a vise.
  - Direct the cutting edge accurately to leave a 1/16" of abrasive section exposed.

#### Properly Dressed Wheel Face



**AFTER TRUING  
THE WHEEL FACE IS SMOOTH  
AND CLOSED**

**AFTER DRESSING CBN GRIT**

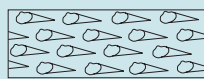


**TAIL  
(BOND SUPPORTING GRIT)**

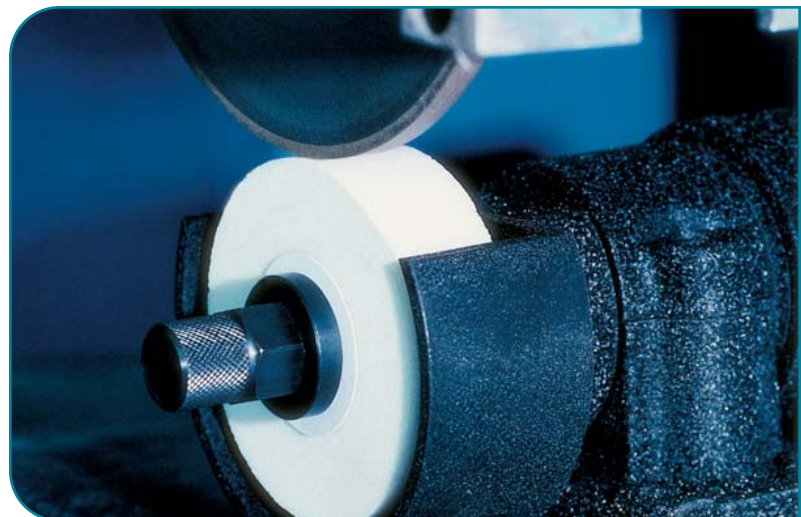


**AFTER DRESSING  
THE WHEEL FACE IS OPEN WITH THE  
GRITS EXPOSED, READY FOR  
EFFICIENT GRINDING ACTION**

**AFTER DRESSING**



**PATH CONNECTING THE TAILS FOR  
COOLANT AND CHIP FLOW**



## Troubleshooting Guide – Dry Grinding

PROBLEM	POSSIBLE CAUSES	SUGGESTED CORRECTION
Burning (excessive heat)	Wheel loaded or glazed Excessive feed rate Wheel too durable	Dress wheel with a dressing stick Reduce infeed of wheel or workpiece Use freer-cutting specification or slow down wheel speed
Poor finish	Grit size too coarse Excessive feed rate	Select a finer grit size Reduce infeed of wheel or workpiece
Chatter	Wheel out of truth	True wheel; ensure it is not slipping on mount (See “Mounting, Truing and Dressing Guide”)

## Troubleshooting Guide – Wet Grinding

PROBLEM	POSSIBLE CAUSES	SUGGESTED CORRECTION
Burning (excessive heat)	Wheel glazed or loaded Poor coolant placement Excessive material removal rate	Re-dress wheel Apply coolant directly to wheel/workpiece interface Reduce downfeed and/or crossfeed
Poor finish	Excessive dressing  Grit size too coarse Poor coolant flow or location	Use lighter dressing pressure Stop dressing as soon as wheel starts to consume stick rapidly Select a finer grit size Apply heavy flood so it reaches wheel/work interface
Chatter	Wheel out of truth	True wheel; ensure it is not slipping on mount
Wheel will not cut	Glazed by truing Wheel loaded	Dress lightly until wheel opens up Dress lightly until wheel opens up Increase coolant flow to keep wheel surface clean Never run wheel with coolant turned off
Slow cutting	Low feeds and speeds	Increase feed rate; increase wheel speed (observe maximum wheel speed)
Short wheel life	Incorrect coolant flow Low wheel speed Excessive dressing Wheel too soft or too hard	Apply coolant to flood wheel/work surface Increase wheel speed (observe maximum operating speed) Use lighter dressing pressure Change grit or grade; use higher concentration

## Recommended Wheel Speeds for Diamond and CBN Wheels

Maximum superabrasive operating speeds are not the most efficient. Superabrasive products operate most effectively at speeds lower than the maximum. The following are general recommendations. CBN products, in many cases, are used effectively at higher speeds.

	WET GRINDING		DRY GRINDING	
	CUP WHEELS	PERIPHERAL WHEELS	CUP WHEELS	PERIPHERAL WHEELS
<b>Diamond Grinding Wheels</b>				
	<b>11V9, 12V9, 15V9, etc.</b>	<b>1A1, 1V1, 1A1R, etc.</b>	<b>11V9, 12V9, 15V9, etc.</b>	<b>1A1, 1V1, 1A1R, etc.</b>
<b>Resin Bond Wheels</b>	4921 to 7874 SFPM 25 to 40 m/s	4921 to 7874 SFPM 25 to 40 m/s	2756 to 3543 SFPM 14 to 18 m/s	2756 to 3543 SFPM 14 to 18 m/s
<b>Metal Bond Wheels</b>		3937 to 5906 SFPM 20 to 30 m/s		
<b>CBN Grinding Wheels</b>				
<b>Resin Bond Wheels</b>	5906 to 9843 SFPM 30 to 50 m/s	5906 to 9843 SFPM 30 to 50 m/s	2953 to 5906 SFPM 15 to 30 m/s	2953 to 5906 SFPM 15 to 30 m/s

**NOTE: CONSULT ANSI B7.1 OR CALL YOUR NORTON REPRESENTATIVE FOR MAXIMUM OPERATING SPEEDS.**

## Wheel Speed Calculation:

**TO CONVERT M/S TO SFPM: MULTIPLY M/S X 196.85 = SFPM**

**EXAMPLE: 40 M/S X 196.85 = 7874 SFPM**

**TO CONVERT SFPM TO M/S: DIVIDE SFPM BY 196.85 = M/S**

**EXAMPLE: 5423 SFPM ÷ 196.85 = 27.5 M/S**

**TO CONVERT RPM TO SFPM: MULTIPLY WHEEL DIAMETER X RPM X 0.262**

**EXAMPLE: 6" DIAMETER X 3450 RPM X 0.262 = 5423 SFPM**

*m/s = meters/second    RPM = Revolutions Per Minute    SFPM = Surface Feet Per Minute*



# Resinoid-Bond Diamond Wheels

## PREMIER RED Diamond Wheels ● ▲

### FEATURES

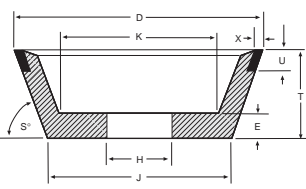
- Premium, consistently high quality synthetic diamond
- High performance resin bond
- Advanced, heat-reducing bond
- Self-lubricating bond
- Best performing wheels

### BENEFITS

- Produces sharp edges on tools
- Tools require less reconditioning
- Significantly increased tool life and productivity
- Eliminates heat damage to workpiece
- Free, cool cutting action
- Prevents loading
- No steel or braze loading
- Uses less power
- Longest tool life and highest productivity
- Lowest total wheel cost



These high performance diamond wheels are ideal for dry grinding carbide.



TYPE 11V9

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	SPECIFICATION
<b>Type 11V9 Flaring Cup – Diamond</b>					
66260379959	* RED601	3-3/4	1-1/2	1-1/4	ND100S-R75BHP-1/16
66260379960	* RED602	3-3/4	1-1/2	1-1/4	ND120-R75BHP-1/16
66260379958	* RED603	3-3/4	1-1/2	1-1/4	ND150-R75BHP-1/16
66260379954	RED604	3-3/4	1-1/2	1-1/4	ND100S-R75BHP-1/8
66260379953	RED605	3-3/4	1-1/2	1-1/4	ND120-R75BHP-1/8
66260379952	RED606	3-3/4	1-1/2	1-1/4	ND150-R75BHP-1/8
66260379948	* RED607	5	1-3/4	1-1/4	ND120-R75BHP-1/16
66260378640	RED608	5	1-3/4	1-1/4	ND150-R75BHP-1/16
66260379949	+ RED609	5	1-3/4	1-1/4	ND100S-R75BHP-1/8
66260379950	* RED610	5	1-3/4	1-1/4	ND120-R75BHP-1/8
66260379951	RED611	5	1-3/4	1-1/4	ND150-R75BHP-1/8

## AMP Diamond Products ● ▲

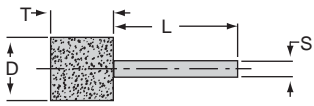
### FEATURES

- High quality synthetic diamond
- Pre-engineered resin bond

### BENEFITS

- High material removal rate
- Long wheel life
- Free cutting
- Superior form holding

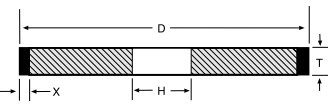
The AMP line is ideal for cutting tool resharpening, and tool & die applications.



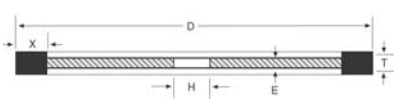
TYPE DW

NOTE: TYPE DW DIAMOND WHEELS ARE MOUNTED ON HIGH SPEED STEEL SHANKS.

UPC NO.	PRODUCT NO.	DIAMETER	THICK.	SHANK	SPECIFICATION
<b>Type DW Mounted Point – Diamond</b>					
66260357823	+AMP111	3/16	3/16	1/8 x 1-1/2	MD120-R100B-SOLID
66260357824	AMP112	3/16	1/4	1/8 x 1-1/2	MD100-R100B-SOLID
66260357825	AMP113	1/4	1/4	1/8 x 1-1/2	MD100-R100B-SOLID
66260357826	AMP114	1/4	1/4	1/8 x 1-1/2	MD150-R100B-SOLID
66260357827	AMP115	1/4	1/4	1/8 x 1-1/2	MD220-R100B-SOLID
66260357829	+AMP117	3/8	3/8	1/8 x 1-1/2	MD120-R100B-SOLID



TYPE 1A1



TYPE 1A1R

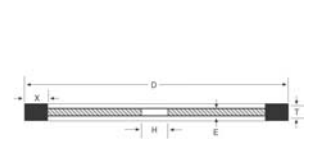
See the new Amplex Express Made-to-Order Service on pages 25 – 41 for express delivery on over 50,000 resinoid-bond Diamond and CBN products.



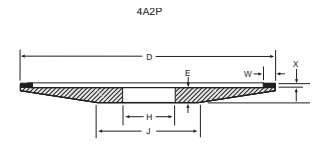


# Resinoid-Bond Diamond Wheels

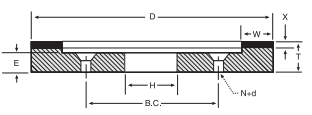
## AMP Diamond Wheels (continued) ● ▲



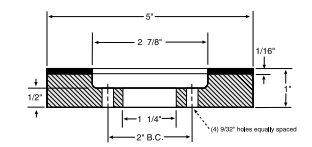
**TYPE 1A1R**



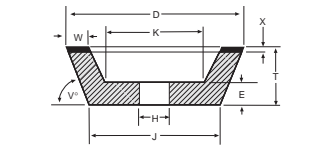
**TYPE 4A2P**



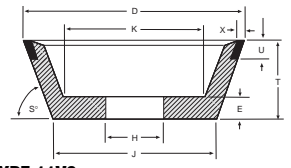
**TYPE 6A2C**



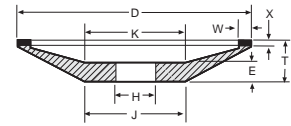
**TYPE 6A2H**



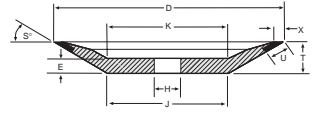
**TYPE 11A2**



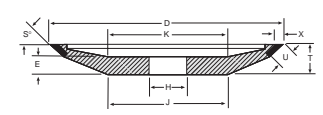
**TYPE 11V9**



**TYPE 12A2**



**TYPE 12V9**



**TYPE 15V9**

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	INSERT LENGTH	SPECIFICATION
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<b>Type 11V9 Flaring Cup – Diamond</b>						
66260357905	*AMP258	3	1-1/4	1/2	3/8	MD150-R100B-1/16
66260357906	*AMP259	3	1-1/4	3/4	3/8	MD150-R100B-1/16
66260357908	AMP261	3	1-1/4	3/4	3/8	ND150-R75B-1/16
66260357909	*AMP270	3-3/4	1-1/2	1-1/4	3/8	MD120-R100B-1/16
66260357910	AMP271	3-3/4	1-1/2	1-1/4	3/8	MD150-R100B-1/16
66260357911	AMP272	3-3/4	1-1/2	1-1/4	3/8	MD180-R100B-1/16
66260357913	+AMP274	3-3/4	1-1/2	1-1/4	3/8	MD320-R100B-1/16
66260357917	*AMP278	3-3/4	1-1/2	1-1/4	3/8	ND120-R75B-1/16
66260357921	*AMP282	3-3/4	1-1/2	1-1/4	3/8	ND320-R100B-1/16
66260357922	AMP283	3-3/4	1-1/2	1-1/4	3/8	MD100S-R100B-1/8
66260357923	AMP284	3-3/4	1-1/2	1-1/4	3/8	MD120-R100B-1/8
66260357924	AMP285	3-3/4	1-1/2	1-1/4	3/8	MD150-R100B-1/8
66260357925	*AMP286	3-3/4	1-1/2	1-1/4	3/8	MD180-R100B-1/8
66260357926	*AMP287	3-3/4	1-1/2	1-1/4	3/8	MD220-R100B-1/8
66260367752	*AMP289	3-3/4	1-1/2	1-1/4	3/8	ND100S-R75B-1/8
66260357928	AMP290	3-3/4	1-1/2	1-1/4	3/8	ND120-R75B-1/8
66260357929	*AMP291	3-3/4	1-1/2	1-1/4	3/8	ND150-R75B-1/8
66260367753	AMP292	3-3/4	1-1/2	1-1/4	3/8	ND180-R75B-1/8
66260357930	*AMP300	5	1-3/4	1-1/4	7/16	MD120-R100B-1/16
66260357932	AMP302	5	1-3/4	1-1/4	7/16	MD180-R100B-1/16
66260357933	*AMP303	5	1-3/4	1-1/4	7/16	MD220-R100B-1/16
66260357937	*AMP307	5	1-3/4	1-1/4	7/16	ND150-R75B-1/16
66260357939	AMP309	5	1-3/4	1-1/4	7/16	MD150-R100B-1/8
66260357940	*AMP310	5	1-3/4	1-1/4	7/16	MD180-R100B-1/8
66260367756	*AMP312	5	1-3/4	1-1/4	7/16	ND100S-R75B-1/8
66260357942	AMP313	5	1-3/4	1-1/4	7/16	ND120-R75B-1/8
66260367757	+AMP314	5	1-3/4	1-1/4	7/16	ND150-R75B-1/8
66260357943	*AMP315	5	1-3/4	1-1/4	7/16	ND180-R75B-1/8
66260357944	*AMP316	5	1-3/4	1-1/4	7/16	ND320-R75B-1/8

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	RIM WIDTH	SPECIFICATION
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<b>Type 12A2 Dish – Diamond</b>						
66260357945	*AMP317	4	1/2	1-1/4	1/4	MD150-R75B-1/8
66260357946	*AMP318	4	1/2	1-1/4	1/4	MD180-R75B-1/8
66260357950	+AMP323	6	1	1-1/4	3/16	MD180-R75B-1/8

UPC NO.	PRODUCT NO.	DIAM	THICK.	HOLE	INSERT LENGTH	INSERT ANGLE	SPECIFICATION
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<b>Type 12V9 Dish – Diamond</b>							
66260367722	*AMP324	3	7/16	3/4	7/16	30°	MD150-R100B-1/16
66260368075	AMP326	4	1/2	1-1/4	1/4	30°	MD180-R100B-1/8
66260368076	*AMP330	6	3/4	1-1/4	3/8	30°	ND150-R75B-1/16

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	INSERT LENGTH	INSERT ANGLE	SPECIFICATION
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<b>Type 15V9 Dish – Diamond</b>							
66260368077	AMP334	6	3/4	1-1/4	3/8	45°	MD150-R100B-1/16

See the new Amplex Express Made-to-Order Service on pages 25 – 41 for express delivery on over 50,000 resinoid bond Diamond and CBN products.



# Resinoid-Bond Diamond Products

## AMP Diamond Hand Hones ● ▲

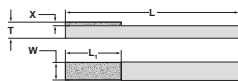
### FEATURES

- Resin bond diamond section

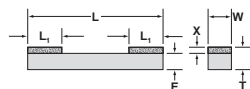
### BENEFITS

- Consistent finish on honed cutting edges

For offhand honing of tools and cutters after regrinding.



TYPE HH1



TYPE HH2

T = THICKNESS  
W = WIDTH  
L = LENGTH  
L1 = DIAMOND LENGTH  
X = ABRASIVE DEPTH  
E = HONE THICKNESS

UPC NO.	PRODUCT NO.	THICK.	WIDTH	OVERALL LENGTH	DIAMOND LENGTH	SPECIFICATION
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### HH1 Hand Hone – Diamond

66260376589	AMP400	1/4	3/8	4	1	ND220-R100B-1/16
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### HH2 Hand Hone – Diamond

66260375244*	AMP405	1/4	3/8	4	1	ND200/400-R100B-1/16
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## Thriftline Diamond Wheels ▲

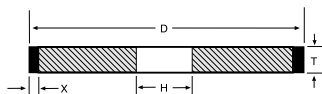
### FEATURES

- Lower diamond concentration
- Produced in large volumes

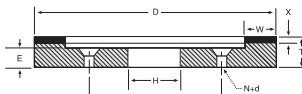
### BENEFITS

- Easy to use
- Lower initial costs

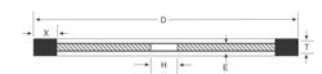
Ideal for the occasional user, for economical and efficient grinding, and for keeping wheel investment to a minimum. Available from stock in three grit sizes: 100 for roughing, 150 for general purpose, and 220 for finishing.



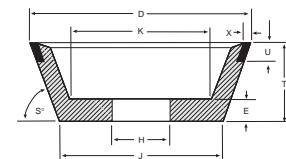
TYPE 1A1



TYPE 6A2C



TYPE 1A1R



TYPE 11V9

UPC NO.	PRODUCT NO.	DIAM.	THICKNESS	HOLE	DIAMOND DEPTH	GRIT
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### Type 1A1 Straight – Diamond

66260300564	1A1RG	6	1/4	1-1/4	1/8	100
66260300562	1A1GP	6	1/4	1-1/4	1/8	150
66260300563	1A1F	6	1/4	1-1/4	1/8	220

UPC NO.	PRODUCT NO.	DIAM.	THICKNESS	HOLE	SPECIFICATION
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### Type 1A1R Cut-off – Diamond

66260302689	1A1RTL	6	.035	1-1/4	ND100-R100B-1/4
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UPC NO.	PRODUCT NO.	DIAM.	THICKNESS	HOLE	DIAMOND DEPTH	RIM WIDTH	GRIT
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### Type 6A2C Straight Cup – Diamond

66260300566	6A2CRG	6	3/4	1-1/4	1/8	3/4	100
66260300567	6A2CGP	6	3/4	1-1/4	1/8	3/4	150
66260300565	6A2CF	6	3/4	1-1/4	1/8	3/4	220

UPC NO.	PRODUCT NO.	DIAM.	THICKNESS	HOLE	DIA. DEPTH	INSERT LENGTH	GRIT
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### Type 11V9 Flaring Cup – Diamond

66260300571	11V9RG	1/16	3-3/4	1-1/2	1-1/4	1/16	3/8	100
66260300570	11V9RG	1/8	3-3/4	1-1/2	1-1/4	1/8	3/8	100
66260300572	11V9GP	1/16	3-3/4	1-1/2	1-1/4	1/16	3/8	150
66260300568	11V9GP	1/8	3-3/4	1-1/2	1-1/4	1/8	3/8	150
66260300573	11V9F	1/16	3-3/4	1-1/2	1-1/4	1/16	3/8	220
66260300569	11V9F	1/8	3-3/4	1-1/2	1-1/4	1/8	3/8	220

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

TARGET MARKET SYMBOLS:



# Resinoid-Bond CBN Products

## PREMIER RED CBN Wheels ● ▲

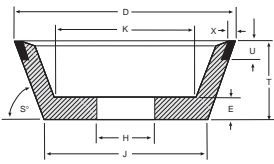
### FEATURES

- Premium, consistently high quality synthetic Cubic Boron Nitride
- High performance resin bond
- Advanced, heat reducing bond
- Best performing wheels

### BENEFITS

- Produces sharp edges on tool
- Tools require less reconditioning
- Significantly increased tool life and productivity
- Eliminates heat damage to workpiece
- Free, cool cutting action
- Grinds cool without coolant
- Prevents loading
- Longest tool life and highest productivity
- Lowest total wheel cost

*These high performance CBN wheels are ideal for dry grinding tool steels.*



**TYPE 11V9**

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	SPECIFICATION
<b>Type 11V9 Flaring Cup – CBN</b>					
66260378641	RED612	3-3/4	1-1/2	1-1/4	CB100-R75BHP-1/16
66260379928*	RED613	3-3/4	1-1/2	1-1/4	CB120-R75BHP-1/16
66260379930	RED614	3-3/4	1-1/2	1-1/4	CB150-R75BHP-1/16
66260379838	RED615	3-3/4	1-1/2	1-1/4	CB100-R100BHP-1/16
66260379941*	RED617	3-3/4	1-1/2	1-1/4	CB150-R100BHP-1/16
66260379942	RED618	3-3/4	1-1/2	1-1/4	CB100-R75BHP-1/8
66260379944*	RED619	3-3/4	1-1/2	1-1/4	CB120-R75BHP-1/8
66260379946+	RED620	3-3/4	1-1/2	1-1/4	CB150-R75BHP-1/8
66260378642	RED621	5	1-3/4	1-1/4	CB100-R75BHP-1/16
66260379927*	RED622	5	1-3/4	1-1/4	CB120-R75BHP-1/16
66260379926*	RED623	5	1-3/4	1-1/4	CB150-R75BHP-1/16
66260379925*	RED624	5	1-3/4	1-1/4	CB100-R75BHP-1/8

## AMP CBN Products ● ▲

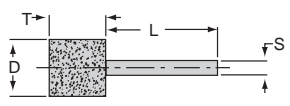
### FEATURES

- Pre-engineered resin bond
- High quality synthetic CBN

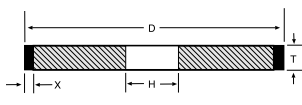
### BENEFITS

- Free cutting
- Superior form holding
- High material removal rate
- Long wheel life

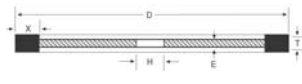
*The AMP line is ideal for cutting tool reshaping applications.*



**TYPE DW**  
NOTE: TYPE DW CBN WHEELS ARE MOUNTED ON SOLID CARBIDE SHANKS.



**TYPE 1A1**



**TYPE 1A1R**

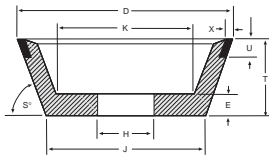
UPC NO.	PRODUCT NO.	DIAMETER	THICK.	SHANK	SPECIFICATION
<b>Type DW Mounted Points – CBN</b>					
66260359093*	AMP101	1/4	1/4	.125 x 1-3/4	CB120-R100B-SOLID
66260359094*	AMP102	3/8	3/8	.250 x 2-1/4	CB100-R100B-SOLID
66260359098+	AMP106	3/4	1/4	.250 x 2-1/4	CB100-R100B-SOLID
66260359099	AMP107	1	1/4	.250 x 1-3/4	CB100-R100B-SOLID
UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	SPECIFICATION
<b>Type 1A1 Straight – CBN</b>					
66260378494*	AMP502	1	1/2	1/4	CB120-R100B-1/8
66260378495*	AMP503	1-1/2	1/2	1/2	CB150-R100B-1/8
66260378504*	AMP507	3	1/8	3/4	CB180-R100B-1/4
66260378505	AMP508	3	1/4	3/4	CB120-R75B-1/8
66260379984+	AMP521	4	1/2	1-1/4	CB120-R75B-1/4
66260380046+	AMP529	6	1/16	1-1/4	CB120-R100B-1/8
66260379998+	AMP537	6	1/8	1-1/4	CB120-R75B-1/8
66260380003*	AMP542	6	1/4	1-1/4	CB120-R75B-1/8
66260367742*	AMP180	7	1/4	1-1/4	CB120-R75B-1/8
66260376903+	AMP550	7	1/2	1-1/4	CB120-R75B-1/8
66260380015*	AMP553	10	1/2	3	CB100-R75B-1/8
66260380016*	AMP554	12	1/2	5	CB150-R75B-1/8
66260380017*	AMP555	12	1	5	CB150-R75B-1/8
UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	SPECIFICATION
<b>Type 1A1R Cut-off – CBN</b>					
66260368073	AMP226	6	.035	1-1/4	CB100-R100B-1/4

*continued*

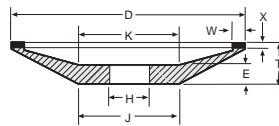


# Resinoid-Bond CBN Wheels

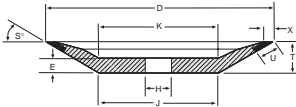
## AMP CBN Wheels (continued) ● ▲



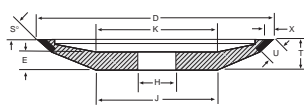
TYPE 11V9



TYPE 12A2



TYPE 12V9



TYPE 15V9

See the new Amplex Express Made-to-Order Service on pages 26 – 41 for express delivery on over 50,000 resinoid-bond Diamond and CBN products.

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	INSERT LENGTH	SPECIFICATION
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### Type 11V9 Flaring Cup – CBN

66260359107*	AMP264	3-3/4	1-1/2	1-1/4	3/8	CB120-R100B-1/16
66260359108*	AMP265	3-3/4	1-1/2	1-1/4	3/8	CB150-R100B-1/16
66260367750	AMP266	3-3/4	1-1/2	1-1/4	3/8	CB100-R75B-1/8
66260359109	AMP267	3-3/4	1-1/2	1-1/4	3/8	CB120-R75B-1/8
66260367751*	AMP268	3-3/4	1-1/2	1-1/4	3/8	CB150-R75B-1/8
66260359112*	AMP294	5	1-3/4	1-1/4	7/16	CB100-R75B-1/16
66260359113	AMP295	5	1-3/4	1-1/4	7/16	CB120-R75B-1/16
66260359114*	AMP296	5	1-3/4	1-1/4	7/16	CB150-R75B-1/16
66260367754*	AMP298	5	1-3/4	1-1/4	7/16	CB120-R75B-1/8
66260367755*	AMP299	5	1-3/4	1-1/4	7/16	CB150-R75B-1/8

UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	RIM WIDTH	SPECIFICATION
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### Type 12A2 Dish – CBN

66260359116*	AMP320	6	1	1-1/4	3/16	CB120-R75B-1/16
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UPC NO.	PRODUCT NO.	DIAM.	THICK.	HOLE	INSERT LENGTH	INSERT ANGLE	SPECIFICATION
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### Type 12V9 Dish – CBN

66260368074*	AMP325	4	1/2	1-1/4	1/8	30°	CB120-R75B-1/8
66260367724*	AMP328	6	3/4	1-1/4	3/8	30°	CB120-R75B-1/8
66260367725*	AMP329	6	3/4	1-1/4	3/8	30°	CB150-R75B-1/8

### Type 15V9 Dish – CBN

66260367728*	AMP333	6	3/4	1-1/4	3/8	45°	CB150-R100B-1/8
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\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

## Amplex Express Made-to-Order Service for Diamond & CBN Resinoid-Bond Wheels

### Amplex Express **new!**

#### FEATURES

- Superior diamond and CBN abrasives in durable resinoid-bond systems
- Thousands of abrasive, grit, grade, concentration, and specification combinations
- Made in our state-of-the art, USA, ISO-certified facilities
- Priced as stock products
- Two week lead-times for 12" and less diameter wheels. Standard lead-times for larger wheels

#### BENEFITS

- These quality wheels will get your job done
- There is an Amplex Express wheel for almost every resinoid-bond application
- Exceptional quality and performance
- Excellent performance/price ratio
- Minimal time from order to production floor



TARGET MARKET SYMBOLS:



# Amplex Express Made-to-Order Diamond & CBN Service

## How to Order Amplex Express Made-to-Order Resinoid-Bond Diamond Wheels

<i>Select</i>	<b>SHAPE</b>		Use the following pages to determine shape and availability.
<i>Select</i>	<b>WHEEL DIMENSIONS</b>	<b>D x T x H Select Diameter x Thickness x Hole from the availability tables.</b> Use drawing numbers where available.	
<i>Select</i>	<b>ABRASIVE</b>	<p><b>ND Armored diamond; most durable.</b> Versatile: can be used wet or dry. ND should be used when carbide and steel are ground in the same operation.</p> <p><b>MD Free cutting standard.</b> Can be used wet or dry; should be used on low horsepower (3/4 hp or less) machines.</p>	Select the abrasive based on horsepower, grinding wet or dry, and contact with steel.
<i>Select</i>	<b>GRIT SIZE</b>	<p><b>80 Roughing</b></p> <p><b>100 Roughing.</b> The most common grit for roughing applications.</p> <p><b>120 For roughing where 100 is too coarse.</b> Also for cut-off applications.</p> <p><b>150 Medium stock removal plus good finish.</b> For combined roughing and finishing applications.</p> <p><b>180 Medium stock removal plus good finish.</b> To improve finish.</p> <p><b>220 Finishing</b></p> <p><b>320 Finishing</b></p> <p><b>400 Fine Finishing</b></p>	Select the grit size based on finish and material removal rate required.
<i>Select</i>	<b>GRADE</b>	<b>R Resin bond standard</b>	The hardness of the wheel
<i>Select</i>	<b>CONCENTRATION</b>	<p><b>50 Shape 2A2T only.</b> For broad area of contact grinding</p> <p><b>75 Amplex standard.</b> Freer cutting than 100 and the most economical for dry grinding with ND diamond.</p> <p><b>100 Very durable.</b> Recommended under flood coolant conditions. For use with 220 grit or finer, when durability is required. Also for cut-off applications.</p>	Select the concentration based on grinding wet or dry, material removal rates and form holding requirements.
<i>Select</i>	<b>BOND</b>	<b>B Amplex standard pre-engineered resinoid bond.</b> Versatile enough to be used wet or dry on most tool making or resharpening applications as well as for grinding non-metallic materials such as ceramics or glass. Available in all shapes.	
<i>Select</i>	<b>ABRASIVE DEPTH</b>	<p>1/16</p> <p>1/8</p> <p>1/4</p> <p>See availability by shape</p>	Usable abrasive

**See product listings on pages 28-41**

### techtips

**DIAMOND GRINDS:**

- Cemented carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Stone
- Abrasives
- Electronic components and materials

**Remember to check stock availability listing first for the fastest delivery and lowest price.**

**Amplex Express lets you “make your own wheel” to meet your specific grinding needs. Your Amplex Express wheel will ship in two weeks. 14" diameter and larger wheels will ship in standard made-to-order lead-times.**

**Call your Amplex Representative to confirm appropriateness of your specification for your application, availability, and to provide a quote.**



# Amplex Express Made-to-Order Diamond & CBN Service

## How to Order Amplex Express Made-to-Order Resinoid-Bond CBN Wheels

<i>Select</i>	<b>SHAPE</b>		Use the "following pages to determine shape and availability."
<i>Select</i>	<b>WHEEL DIMENSIONS</b>	<b>D x T x H Select Diameter x Thickness x Hole from the availability tables.</b> Use drawing numbers where available	
<i>Select</i>	<b>ABRASIVE</b>	<b>CB</b> <b>Amplex standard coated CBN crystal.</b> Optimized for high performance in resin bond systems.	Select Amplex CBN abrasive to grind hard tool steels such as A2, D2, T15, etc., and tough alloy steels.
	<b>GRIT SIZE</b>	<b>80</b> <b>Roughing</b> <b>100</b> <b>Roughing.</b> The most common grit size for roughing operations. <b>120</b> <b>For roughing where 100 is too coarse.</b> Also for cut-off applications. <b>150</b> <b>Medium stock removal plus good finish.</b> For combined roughing and finishing applications. <b>180</b> <b>Medium stock removal plus good finish.</b> To improve finish. <b>220</b> <b>Finishing</b> <b>320</b> <b>Finishing</b> <b>400</b> <b>Fine Finishing</b>	Select the grit size based on finish and material removal rate required.
<i>Select</i>	<b>GRADE/ CONCENTRATION</b>	<b>T75</b> <b>Amplex standard.</b> T75 is the first choice for lower horsepower equipment or wide area of contact between the wheel and the work piece. Ideal for resharpening applications with 11V9, 12A2, 4A2P, and 15V9 when dry grinding. <b>W100</b> <b>Very Durable.</b> W100 is recommended for high volume coolant operations: flute grinding from solid, flute polishing, surface, and cylindrical grinding.	The hardness of the wheel
<i>Select</i>	<b>BOND</b>	<b>B</b> <b>Amplex standard resin bond.</b> Pre-engineered for optimal performance with CBN abrasive. Available in all shapes.	
<i>Select</i>	<b>ABRASIVE DEPTH</b>	1/16 1/8 1/4 See availability by shape	Usable abrasive

**See product listings on pages 28-41**

### techtips

**CBN GRINDS:**

- High speed tool steels
- Die steels
- Hardened carbon steels
- Alloy steels
- Aerospace alloys
- Hard stainless steel
- Abrasion-resistant ferrous materials

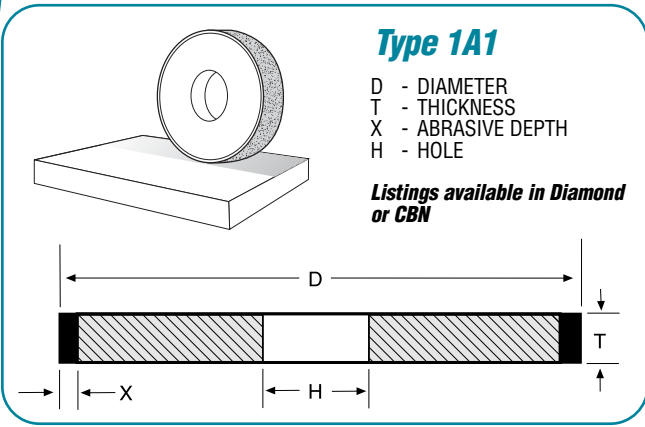
**Remember to check stock availability listing first for the fastest delivery and lowest price.**

**Amplex Express lets you "make your own wheel" to meet your specific grinding needs. Your Amplex Express wheel will ship in two weeks. 14" diameter and larger wheels will ship in standard made-to-order lead-times.**

**Call your Amplex Representative to confirm appropriateness of your specification for your application, availability and to provide a quote.**



# Amplex Express Made-to-Order Diamond & CBN Service



DIAMETER	THICKNESS	ABRASIVE DEPTH
<b>Type 1A1 – Straight Wheels</b>		
1	1/16	1/8
1	3/32	1/8
1	1/8	1/8
1	1/4	1/8
1	3/8	1/8
1	1/2	1/8
1	5/8	1/8
1	3/4	1/8
1	1	1/8
1-1/8	1/4	1/8
1-1/8	1/2	1/8
1-1/8	5/8	1/8
1-1/4	1/16	1/8
1-1/4	1/8	1/8
1-1/4	1/4	1/8
1-1/4	3/8	1/8
1-1/4	1/2	1/8
1-1/4	3/4	1/8
1-3/8	1/4	1/8
1-3/8	1/2	1/8
1-1/2	1/16	1/8
1-1/2	1/8	1/8
1-1/2	1/4	1/8
1-1/2	3/8	1/8
1-1/2	1/2	1/8
1-1/2	3/4	1/8
1-1/2	1	1/8
1-3/4	3/16	1/8
1-3/4	1/8	1/8
1-3/4	1/4	1/8
1-3/4	1/2	1/8
1-3/4	1	1/8
2	1/16	1/8
2	3/32	1/8
		1/4
2	1/8	1/8
		1/4
2	3/16	1/8
		1/4
2	1/4	1/8
2	3/8	1/8
		1/4
2	1/2	1/8
		1/4
2	3/4	1/8
2	1	1/8

DIAMETER	THICKNESS	ABRASIVE DEPTH
<b>Type 1A1 – Straight Wheels</b>		
2-1/4	1/2	1/8
		1/4
2-1/2	1/4	1/8
		1/4
2-1/2	1/2	1/8
2-3/4	1/4	1/8
2-3/4	1/2	1/8
3	1/32	1/8
		1/4
3	1/16	1/8
		1/4
3	3/32	1/8
		1/4
3	1/8	1/8
		1/4
3	3/16	1/8
		1/4
3	1/4	1/8
		1/4
3	3/8	1/8
		1/4
3	1/2	1/8
		1/4
3	3/4	1/8
4	1/32	1/8
		1/4
4	1/16	1/8
		1/4
4	3/32	1/8
		1/4
4	1/8	1/8
		1/4
4	3/16	1/8
		1/4
4	1/4	1/8
		1/4
4	5/16	1/8
		1/4
4	3/8	1/8
		1/4
4	1/2	1/8
		1/4
4	3/4	1/8
		1/4
4	1	1/8
5	1/32	1/8
		1/4

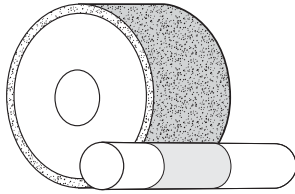
DIAMETER	THICKNESS	ABRASIVE DEPTH
<b>Type 1A1 – Straight Wheels</b>		
5	1/16	1/8
		1/4
5	3/32	1/8
		1/4
5	1/8	1/8
		1/4
5	3/16	1/8
		1/4
5	1/4	1/8
		1/4
5	3/8	1/8
		1/4
5	1/2	1/8
		1/4
6	1/32	1/8
		1/4
6	1/16	1/8
		1/4
6	3/32	1/8
		1/4
6	1/8	1/8
		1/4
6	3/16	1/8
		1/4
6	1/4	1/8
		1/4
6	5/16	1/8
		1/4
6	3/8	1/8
		1/4
6	1/2	1/8
		1/4
6	5/8	1/8
		1/4
6	3/4	1/8
		1/4
6	1	1/8
		1/4
7	1/16	1/8
		1/4
7	3/32	1/8
		1/4
7	1/8	1/8
		1/4
7	3/16	1/8
		1/4
7	1/4	1/8
		1/4
7	5/16	1/8
		1/4
7	3/8	1/8
		1/4
7	1/2	1/8
		1/4
7	1	1/8
		1/4
8	1/16	1/8
		1/4
8	3/32	1/8
		1/4
8	1/8	1/8
		1/4
8	3/16	1/8
		1/4
8	1/4	1/8
		1/4
8	3/8	1/8
		1/4

DIAMETER	THICKNESS	ABRASIVE DEPTH
<b>Type 1A1 – Straight Wheels</b>		
8	1/2	1/8
		1/4
8	5/8	1/8
8	3/4	1/8
		1/4
8	1	1/8
9	1/2	1/8
10	1/4	1/8
		1/4
10	3/8	1/8
		1/4
10	1/2	1/8
		1/4
10	3/4	1/8
		1/4
10	1	1/8
		1/4
11	1/2	1/8
12	1/4	1/8
		1/4
12	3/8	1/8
		1/4
12	1/2	1/8
		1/4
12	5/8	1/8
12	3/4	1/8
		1/4
12	1	1/8
		1/4
14	1/2	1/8
		1/4
14	3/4	1/8
		1/4
14	1	1/8
		1/4
16	1/2	1/8
		1/4
16	3/4	1/8
		1/4
16	1	1/8
		1/4
18	1/2	1/8
		1/4
18	1	1/8
		1/4
20	1/2	1/8
		1/4
20	3/4	1/8
		1/4
20	1	1/8
		1/4
24	3/4	1/8
		1/4
24	1	1/8
		1/4
30	1	1/8
		1/4

**Standard Package = 1 wheel**

**Customer to specify hole size, subject to safety standards.**

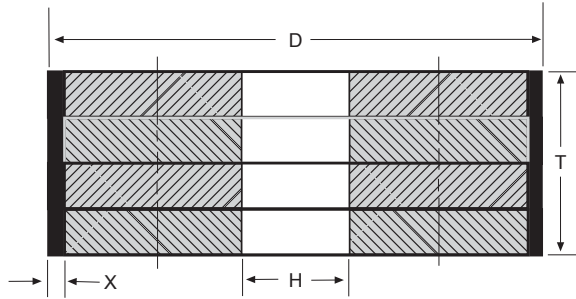




### Type 1A1 Assembly

- D - DIAMETER
- T - THICKNESS
- X - ABRASIVE DEPTH
- H - HOLE

Listings available in Diamond or CBN



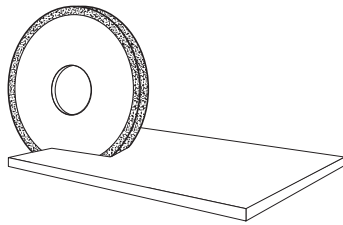
Assembly wheels are made up of sections. The "T" dimension selected determines the number of sections. Straight seams are provided.

DIAMETER	THICKNESS	ABRASIVE DEPTH
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### Type 1A1 – Assembly

12	2	1/8
		1/4
12	3	1/8
		1/4
12	4	1/8
		1/4
14	2	1/8
		1/4
14	4	1/8
		1/4
16	2	1/8
		1/4
16	4	1/8
		1/4
18	2	1/8
		1/4
20	4	1/8
		1/4
20	6	1/8
		1/4

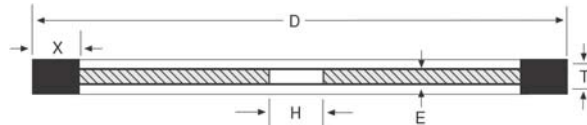
Standard Package = 1 wheel



### Type 1A1R

- D - DIAMETER
- T - THICKNESS
- X - ABRASIVE DEPTH
- X1 - USABLE ABRASIVE DEPTH
- H - HOLE
- E - STEEL CENTER THICKNESS

Listings available in Diamond or CBN



DRAWING NUMBER	D	T	MINIMUM H	E	X	X1
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### Type 1A1R – Cut-off Wheels

89529	5	1/16	1/2	.057	1/8	3/32
100815	5	1/8	1/2	.117	1/8	3/32
97801	6	.0305	1/2	.022	1/8	3/32
89709	6	1/32	1/2	.022	1/8	3/32
81121	6	1/32	1/2	.022	1/4	3/16
83187	6	.035	5/8	.027	1/8	1/16
80676	6	.035	1/2	.027	1/8	3/32
43572	6	.035	1/2	.027	1/4	3/16
73316	6	.035	1/2	.027	9/32	1/4
72577	6	.040	1/2	.032	1/4	3/16
83991	6	.045	1/2	.037	1/8	3/32
72002	6	.045	1/2	.037	1/4	3/16
74626	6	.050	1/2	.042	1/4	3/16
82694	6	.062	1/2	.054	1/8	3/32
69777	6	.062	1/2	.054	1/4	3/16
93344	6	.125	1/2	.117	1/8	3/32
82347	7	.035	1/2	.030	1/4	3/16
70075	7	.040	1/2	.030	1/4	3/16
75148	8	.035	5/8	.027	9/32	1/4
73768	8	.040	5/8	.027	1/4	3/16
106550	8	.045	5/8	.032	3/16	1/8
102293	8	.045	5/8	.027	1/4	3/16
43569	8	.045	5/8	.032	1/4	3/16
118534	8	.045	5/8	.032	5/16	1/4
43565	10	.050	5/8	.036	1/4	3/16
85766	10	1/16	5/8	.041	1/4	3/16
43567	12	.070	5/8	.056	1/4	3/16
106589	14	.070	3/4	.056	1/4	3/16

Standard Package = 1 wheel

DRAWING NUMBER	D	T	MINIMUM H	E	X	X1
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### Type 1A1R – Cut-off Wheels

43571	3	1/32	1/2	.022	1/4	3/16
93308	3	.035	1/2	.027	1/4	3/16
87950	4	.025	1/2	.017	1/8	3/32
77202	4	.031	1/2	.022	1/8	3/32
43570	4	1/32	1/2	.022	1/4	3/16
81257	4	.035	1/2	.027	1/8	3/32
86670	4	.035	1/2	.027	1/4	3/16
65456	4	1/16	1/2	.052	1/4	3/16
81104	5	.018	1/2	.015	1/8	3/32
80798	5	.025	1/2	.020	1/8	3/32
79842	5	.035	1/2	.030	1/8	3/32
76331	5	.040	1/2	.035	1/8	3/32

# Amplex Express Made-to-Order Diamond & CBN Service

**Type 1A8**

D - DIAMETER  
T - THICKNESS  
H - HOLE  
ABRASIVE IS SOLID TO HOLE

**Listings available in Diamond or CBN**

DIAMETER	THICKNESS	HOLE
<b>Type 1A8 – ID Wheels</b>		
1/4	1/8	1/8
5/16	1/4	1/8
3/8	1/32	1/8
3/8	1/4	1/8
3/8	3/8	1/8
3/8	1/2	1/8
3/8	1/2	3/16
7/16	3/8	1/8
7/16	1/2	1/8
1/2	1/4	1/8
1/2	1/4	1/4
1/2	3/8	1/8
1/2	1/2	1/8
1/2	1/2	3/16
1/2	1/2	1/4
1/2	5/8	1/4
9/16	1/2	1/4
9/16	3/4	1/4

DIAMETER	THICKNESS	HOLE
<b>Type 1A8 - ID Wheels</b>		
5/8	1/4	1/4
5/8	3/8	1/4
5/8	1/2	3/16
5/8	1/2	1/4
5/8	5/8	1/4
5/8	3/4	1/4
3/4	1/32	3/16
3/4	1/16	1/8
3/4	1/4	1/4
3/4	3/8	1/4
3/4	1/2	1/4
3/4	3/4	1/4
7/8	1/2	1/4
7/8	5/8	1/4
1	1/16	1/4
1	1/4	1/4
1	1/2	1/4

**Standard Package = 1 wheel**

**Type 1B1**

D - DIAMETER  
T - THICKNESS  
V - FACE ANGLE  
X - ABRASIVE DEPTH  
H - HOLE

**Listings available in Diamond or CBN**

D	T	V	X
<b>Type 1B1</b>			
3	1/16	5° - 45°	1/8
3	1/16	5° - 71°	1/4
3	3/32	5° - 33°	1/8
3	3/32	5° - 63°	1/4
4	1/16	5° - 45°	1/8
4	1/16	5° - 71°	1/4
4	3/32	5° - 33°	1/8
4	3/32	5° - 63°	1/4
6	1/16	5° - 45°	1/8
6	1/16	5° - 71°	1/4
6	3/32	5° - 33°	1/8
6	3/32	5° - 63°	1/4

**Standard Package = 1 wheel**

**Type 1E1**

D - DIAMETER  
T - THICKNESS  
V - FACE ANGLE  
X - ABRASIVE DEPTH  
H - HOLE

**Listings available in Diamond or CBN**

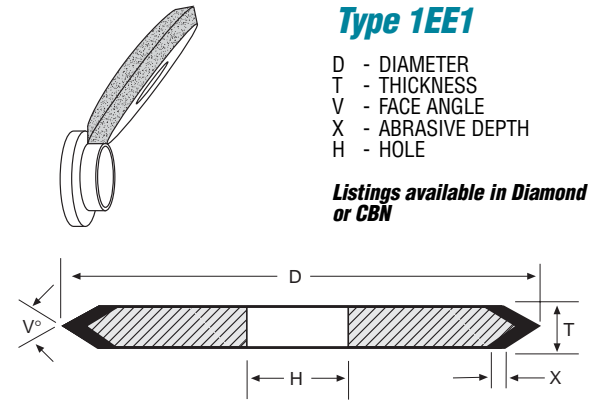
D	T	V	X
<b>Type 1E1</b>			
3	3/32	74° & LARGER	1/8
4	1/16	53° & LARGER	1/8
4	1/8	90° & LARGER	1/8
6	1/16	53° & LARGER	1/8
6	3/32	74° & LARGER	1/8
6	1/8	90° & LARGER	1/8

**Standard Package = 1 wheel**

**Customer to specify hole size, subject to safety standards.**







**Type 1EE1**

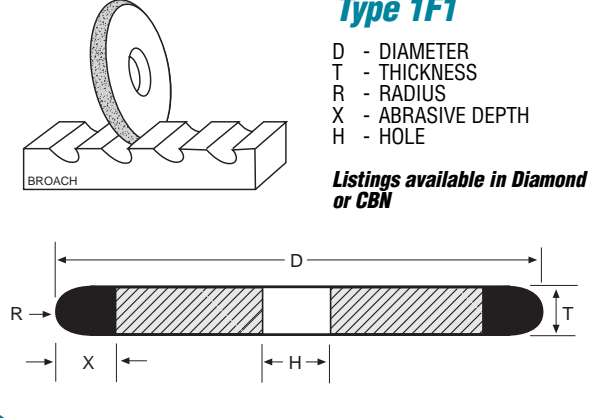
D - DIAMETER  
T - THICKNESS  
V - FACE ANGLE  
X - ABRASIVE DEPTH  
H - HOLE

**Listings available in Diamond or CBN**

D	T	V	X
<b>Type 1EE1</b>			
3	1/8	60°	1/8
3	1/8	70°	1/8
3	1/8	90°	1/8
3	3/16	60°	1/8
3	3/16	90°	1/8
3	1/4	60°	1/8
3	1/4	70°	1/8
3	1/4	90°	1/8
3	1/4	60°	1/4
3	1/2	90°	1/8
4	1/8	30°	1/8
4	1/8	45°	1/8
4	1/8	50°	1/8
4	1/8	60°	1/8
4	1/8	70°	1/8
4	1/8	90°	1/8
4	1/8	120°	1/8
4	1/4	45°	1/8
4	1/4	60°	1/8
4	1/4	70°	1/8
4	1/4	90°	1/8
4	1/4	60°	1/4
4	3/8	90°	1/8
4	3/8	120°	1/8
4	3/8	90°	1/4
4	3/4	45°	1/8
4	3/4	60°	1/8
5	1/8	45°	1/8
5	1/8	90°	1/8
5	3/8	90°	1/8
5	3/8	90°	1/4

D	T	V	X
<b>Type 1EE1</b>			
6	1/8	60°	1/8
6	1/8	70°	1/8
6	1/8	90°	1/8
6	1/4	30°	1/8
6	1/4	45°	1/8
6	1/4	60°	1/8
6	1/4	70°	1/8
6	1/4	90°	1/8
6	1/4	60°	1/4
6	1/4	90°	1/4
6	3/8	30°	1/8
6	3/8	60°	1/8
6	3/8	90°	1/8
6	1/2	60°	1/8
6	1/2	90°	1/8
6	3/4	90°	1/8
7	1/8	60°	1/8
7	1/8	90°	1/8
7	1/4	45°	1/8
7	1/4	60°	1/8
7	1/4	70°	1/8
7	1/4	90°	1/8
7	3/8	60°	1/8
7	3/8	90°	1/8
7	3/8	120°	1/8
7	1/2	60°	1/8
7	1/2	90°	1/8
7	1/2	100°	1/8

**Standard Package = 1 wheel**



**Type 1F1**

D - DIAMETER  
T - THICKNESS  
R - RADIUS  
X - ABRASIVE DEPTH  
H - HOLE

**Listings available in Diamond or CBN**

D	T	MIN. R	X
<b>Type 1F1 – Radius Wheels</b>			
3	1/16	1/32	1/8 1/4
3	3/32	3/64	1/8 1/4
4	1/16	1/32	1/8 1/4
4	3/32	3/64	1/8 1/4
4	1/8	1/16	1/8 1/4
4	3/16	3/32	1/8 1/4

D	T	MIN. R	X
<b>Type 1F1 – Radius Wheels</b>			
5	1/16	1/32	1/8 1/4
5	3/32	3/64	1/8 1/4
6	1/16	1/32	1/8 1/4
6	3/32	3/64	1/8 1/4
6	1/8	1/16	1/8 1/4
6	1/4	1/8	1/4

**Standard Package = 1 wheel**



# Amplex Express Made-to-Order Diamond & CBN Service

**Type 1FF1**

D - DIAMETER  
T - THICKNESS  
R - RADIUS  
X - ABRASIVE DEPTH  
H - HOLE

**Listings available in Diamond or CBN**

D	T	R	X
<b>Type 1FF1 – Radius Wheels</b>			
3	1/8	1/16	1/8
3	1/4	1/8	1/8
3	3/16	3/32	1/8
3	3/8	3/16	1/8
3	1/2	1/4	1/8
4	1/8	1/16	1/8
4	5/32	5/64	1/8
4	3/16	3/32	1/8
4	7/32	7/64	1/8
4	1/4	1/8	1/8
4	5/16	5/32	1/8
4	3/8	3/16	1/8
4	1/2	1/4	1/8
5	1/8	1/16	1/8
5	3/16	3/32	1/8
5	1/4	1/8	1/8

D	T	R	X
<b>Type 1FF1 – Radius Wheels</b>			
6	1/8	1/16	1/8
6	5/32	5/64	1/8
6	3/16	3/32	1/8
			1/4
6	1/4	1/8	1/8
6	5/16	5/32	1/4
6	3/8	3/16	1/8
6	1/2	1/4	1/8
6	5/8	5/16	1/8
7	1/8	1/16	1/8
7	3/16	3/32	1/8
7	1/4	1/8	1/8
7	3/8	3/16	1/8
7	1/2	1/4	1/8

**Standard Package = 1 wheel**

**Type 1V1**

D - DIAMETER  
T - THICKNESS  
V - FACE ANGLE  
X - ABRASIVE DEPTH  
H - HOLE

**Listings available in Diamond or CBN**

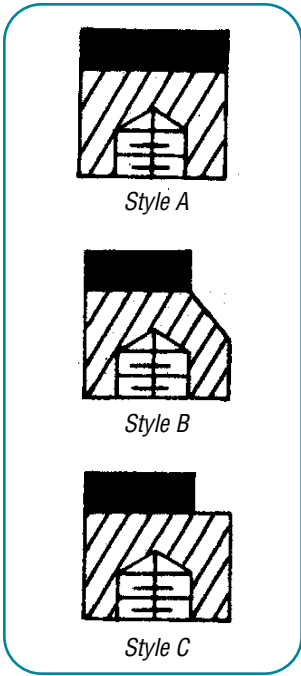
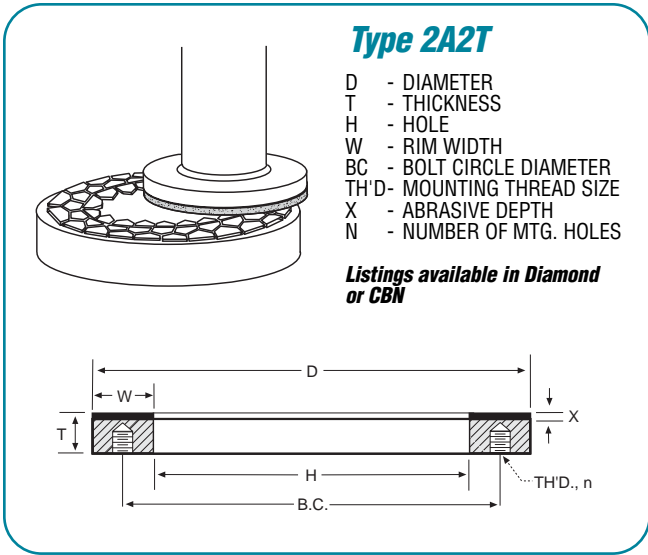
D	T	V	X
<b>Type 1V1</b>			
2	1/8	20°	1/8
2	1/8	30°	1/8
2	1/8	45°	1/8
2	1/4	30°	1/8
2	1/4	45°	1/8
3	1/8	15°	1/8
3	1/8	30°	1/8
3	1/8	45°	1/8
3	1/8	60°	1/8
3	1/8	30°	1/4
3	1/8	45°	1/4
3	1/4	20°	1/8
3	1/4	30°	1/8
3	1/4	45°	1/8
4	1/8	15°	1/8
4	1/8	15°	1/4
4	1/8	20°	1/8
4	1/8	30°	1/8
4	1/8	45°	1/8
4	3/16	15°	1/8
4	3/16	20°	1/8
4	3/16	30°	1/8
4	3/16	45°	1/8
4	1/4	15°	1/8
4	1/4	15°	1/4
4	1/4	20°	1/8
4	1/4	25°	1/8
4	1/4	30°	1/8
4	1/4	45°	1/8
4	3/8	15°	1/8
4	3/8	20°	1/8
4	3/8	25°	1/8
4	3/8	30°	1/8
4	3/8	45°	1/8
4	1/2	15°	1/8
4	1/2	30°	1/8
4	1/2	45°	1/8
5	1/8	45°	1/8
5	3/16	45°	1/8
5	1/4	30°	1/8

D	T	V	X
<b>Type 1V1</b>			
5	1/4	15°	1/4
5	1/4	25°	1/4
5	1/4	30°	1/4
5	3/8	15°	1/4
6	1/8	15°	1/4
6	1/8	20°	1/4
6	1/8	30°	1/4
6	1/8	45°	1/8
6	1/8	45°	1/4
6	3/16	15°	1/4
6	3/16	30°	1/8
6	3/16	45°	1/8
6	1/4	15°	1/8
6	1/4	15°	1/4
6	1/4	25°	1/8
6	1/4	30°	1/8
6	1/4	45°	1/8
6	1/4	45°	1/4
6	5/16	12°	1/4
6	5/16	15°	1/8
6	3/8	10°	1/4
6	3/8	20°	1/4
6	3/8	30°	1/4
6	3/8	45°	1/8
6	1/2	20°	1/8
6	1/2	45°	1/8
7	1/8	60°	1/8
7	1/4	10°	1/8
7	1/4	20°	1/8
7	1/4	30°	1/8
7	1/4	45°	1/8
7	3/8	10°	1/8
7	3/8	20°	1/8
7	3/8	45°	1/8
7	1/2	25°	1/8
7	1/2	30°	1/8
7	1/2	35°	1/8
7	1/2	45°	1/8

**Standard Package = 1 wheel**

**Customer to specify hole size, subject to safety standards.**



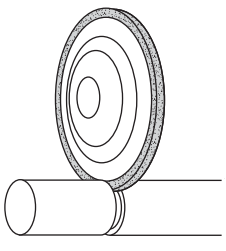


STYLE	DRAWING NUMBER	D	T	H	W	N	B.C.	TH'D	X
<b>Type 2A2T – Ring Wheels</b>									
C	37792	10	13/16 15/16	8	1/4	6	9.000	3/8-16 NC	1/8 1/4
B	69812	10	13/16	8	3/8	6	9.000	3/8-16 NC	1/8
B	65611	10	7/8 1	8	1/2	6	9.000	3/8-16 NC	1/8 1/4
A	39973	10	3/4 7/8	9	1/2	6	9.500	1/4-20 NC	1/8 1/4
B	93183	10	3/4	8	3/4	6	9.000	3/8-16 NC	1/8
A	35771	10	3/4	8	1	6	9.000	3/8-16 NC	1/8
C	91584	11	13/16	9	1/4	6	10.000	3/8-16 NC	1/8
C	41891	11	13/16 15/16	9	1/2	6	10.000	3/8-16 NC	1/8 1/4
A	45060	11	3/4 7/8	9-1/2	3/4	6	10.250	5/16-18 NC	1/8 1/4
A	39846	11	3/4	9	1	6	10.000	3/8-16 NC	1/8
A	90807	16	3/4	15	1/2	12	15.500	1/4-20 NC	1/8 1/4
B	87885	18	7/8 1	16-9/16	1/4	12	17.250	5/16-18 NC	1/8 1/4
B	73188	18	7/8 1	16-1/2	3/8	12	17.250	5/16-18 NC	1/8 1/4
B	88985	18	7/8 1	16	1/2	12	17.000	3/8-16 NC	1/8 1/4
A	47306	18	7/8 1	16-1/2	3/4	12	17.250	5/16-18 NC	1/8 1/4
A	38343	18	3/4 7/8	16	1	12	17.000	3/8-16 NC	1/8 1/4

**Note: 2A2T does not include adapter. Contact your local Amplex distributor for price, delivery and application information.**

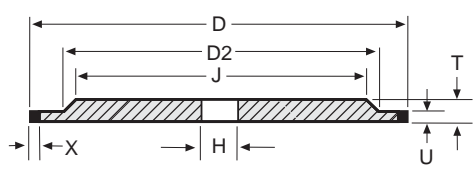
**Standard Package = 1 wheel**

# Amplex Express Made-to-Order Diamond & CBN Service



## Type 3A1

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- U - ABRASIVE THICKNESS
- J - HUB DIAMETER
- D2 - LARGE HUB DIAMETER
- X - ABRASIVE DEPTH



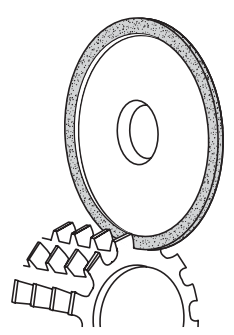
Listings available in Diamond or CBN

DRAWING NUMBER	D	T	U	J	D2	X
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### Type 3A1 – Hub 1-Side

114297	3-1/2	1/4	1/8	2-3/4	2-15/16	1/8
92383	5	5/16	1/16	3-3/4	4-3/16	1/8
66716	5	3/8	1/8	3-3/4	4-3/16	1/8
74734	6	1/4	1/8	5-1/16	5-1/4	1/8
60795	6	3/8	1/8	5	5-1/2	1/8
87172	6	3/8	1/16	4-13/16	5-7/16	1/8
87805	6	3/8	1/32	4-15/16	5-5/8	1/8
128352	12-1/4	3/8	3/16	11-3/4	—	1/8

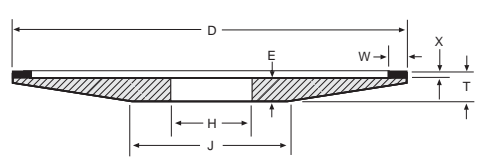
Standard Package = 1 wheel



## Type 4A2P

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- J - HUB DIAMETER
- W - RIM WIDTH
- X - ABRASIVE DEPTH

Listings available in Diamond or CBN



DRAWING NUMBER	D	T	W	J	X
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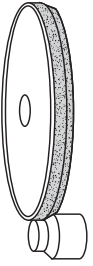
### Type 4A2P – Dish (Saw Sharpening)

84209	6	3/8 7/16	1/8	2-1/4	1/16 1/8
80016	6	3/8 7/16	3/16	2-1/4	1/16 1/8
94471	6	1/2 9/16	3/16	3-1/2	1/16 1/8
105175	6	17/64 21/64	1/4	3	1/16 1/8
88369	6	3/8 7/16	1/4	2-1/4	1/16 1/8
97016	6	3/8	1/4	3	1/16
91942	6	3/8 7/16	1/4	4-1/4	1/16 1/8
83387	6	3/8 7/16	3/8	3	1/16 1/8

Standard Package = 1 wheel

Customer to specify hole size, subject to safety standards.

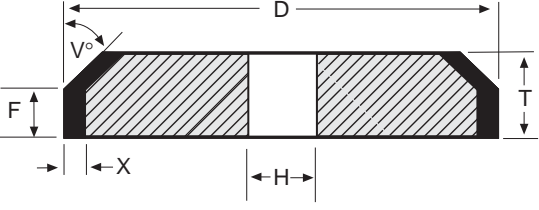




**Type 4Y1**

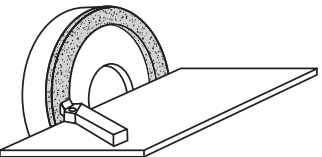
D - DIAMETER  
T - THICKNESS  
H - HOLE  
V - FACE ANGLE  
F - ABRASIVE FLAT  
X - ABRASIVE DEPTH

*Listings available in Diamond or CBN*



DRAWING NUMBER	D	T	F	V	X
<b>Type 4Y1</b>					
35789	6	1/8	1/16	45°	1/8
65953	6	1/4	1/8	30°	1/8
54623	6	1/4	1/8	45°	1/8
54649	6	3/8	3/16	45°	1/8
38936	6	1/2	1/4	45°	1/8
98975	6	1/2	1/4	45°	1/8
57664	7	1/4	1/8	45°	1/8
68742	7	3/8	3/16	45°	1/8

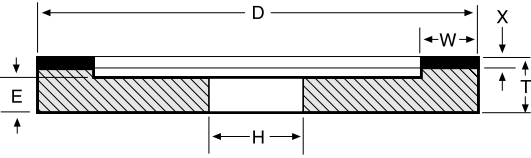
**Standard Package = 1 wheel**



**Type 6A2**

D - DIAMETER  
T - THICKNESS  
H - HOLE  
W - RIM WIDTH  
E - BACK THICKNESS  
X - ABRASIVE DEPTH

*Listings available in Diamond or CBN*

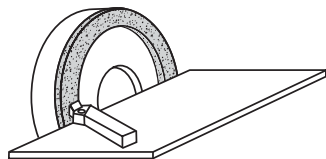


DRAWING NUMBER	D	T	W	E	X
<b>Type 6A2 – Straight Cup Wheels</b>					
156751	2	1/2 9/16	1/2	1/4	1/16 1/8
156752	3	3/4 13/16	3/8	3/8	1/16 1/8
156755	4	3/4 13/16	1/4	3/8	1/16 1/8
156756	4	3/4 13/16	3/8	3/8	1/16 1/8
156754	4	3/4 13/16	1/2	3/8	1/16 1/8
156757	5	3/4 13/16	3/8	3/8	1/16 1/8
156758	6	9/16 5/8	1/4	3/8	1/16 1/8
156763	6	3/4 13/16	1/8	3/8	1/16 1/8
156761	6	3/4 13/16	3/16	3/8	1/16 1/8
156764	6	3/4 13/16	1/4	3/8	1/16 1/8
156759	6	3/4 13/16	3/8	3/8	1/16 1/8
156762	6	3/4 13/16	1/2	3/8	1/16 1/8
156760	6	3/4 13/16	3/4	3/8	1/16 1/8
156765	6	3/4 13/16	1	3/8	1/16 1/8
156766	6	1.575 1.637	1/2	5/8	1/16 1/8
156767	7	3/4 13/16	1/2	3/8	1/16 1/8
156768	8	3/4 13/16	3/4	3/8	1/16 1/8
156769	10	15/16 1	1	1/2	1/16 1/8

**Standard Package = 1 wheel**



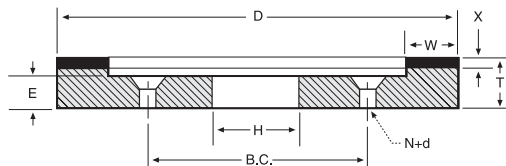
# Amplex Express Made-to-Order Diamond & CBN Service



## Type 6A2C

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- X - ABRASIVE DEPTH
- E - BACK THICKNESS
- W - RIM WIDTH
- BC - BOLT CIRCLE
- N - # OF MTG. HOLES
- d - DIA. OF MTG. HOLES

**Listings available in Diamond or CBN**



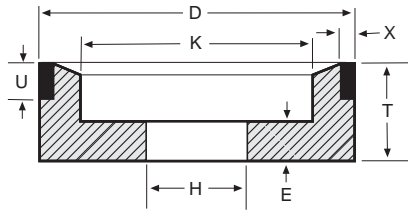
DRAWING NUMBER	D	T	W	N	d	E	B.C.	X
<b>Type 6A2C – Straight Cup Wheels with Mounting Holes</b>								
36743	6	3/4 13/16	1/4	4	9/32	7/16	3-1/4	1/16 1/8
27852	6	3/4 13/16 13/16	3/8	4	9/32	7/16	3-1/4	1/16 1/8 1/4
30621	6	3/4 13/16 13/16	1/2	4	9/32	7/16	3-1/4	1/16 1/8 1/4
27853	6	3/4 13/16 13/16	3/4	4	9/32	7/16	3-1/4	1/16 1/8 1/4
27854	6	3/4 13/16	1	4	9/32	7/16	3-1/4	1/16 1/8
54263	7	1-1/4 1-5/16	1	4	9/32	1/2	1-7/8	1/16 1/8
34522	10	1 1-1/16	3/4	6	11/32	3/4	3-1/2	1/16 1/8
34647	10	1 1-1/16	1	6	11/32	3/4	3-1/2	1/16 1/8

**Standard Package = 1 wheel**

**Customer to specify hole size, subject to safety standards.**

## Type 6A9

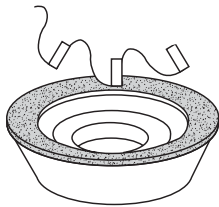
- D - DIAMETER
- T - THICKNESS
- H - HOLE
- E - BACK THICKNESS
- U - INSERT LENGTH
- K - INSIDE DIAMETER
- X - ABRASIVE DEPTH



Listings available in Diamond or CBN

DRAWING NUMBER	D	T	U	E	K	X
<b>Type 6A9 – Straight Cup Wheels</b>						
57851	3	1-1/2	1/2	3/8	2-1/2	1/16 1/8
59701	4	1-1/4	3/8	1/2	3	1/16 1/8
57805	5	1-1/2	7/16	1/2	4-1/4	1/16 1/8
41681	6	1-1/2	7/16	1/2	5-1/16	1/16 1/8
100028	8	2	1/2	3/4	7-1/4	1/8
106885	12	1-3/8	1/4	1-1/16	11-1/8	3/16

Standard Package = 1 wheel

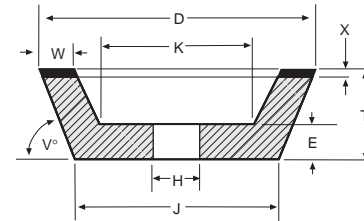


## Type 11A2

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- E - BACK THICKNESS
- J - HUB DIAMETER

- K - INSIDE DIAMETER OF FLAT
- W - RIM WIDTH
- X - ABRASIVE DEPTH

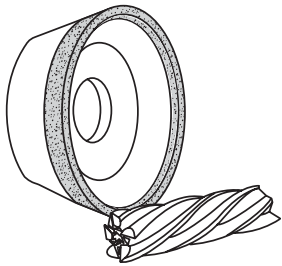
Listings available in Diamond or CBN



DRAWING NUMBER	D	T	W	E	K	X
<b>Type 11A2 – Flaring Cup Wheels</b>						
26849	3	7/8	3/8	5/16	1-3/4	1/8
31815	3	1-5/16	3/8	3/8	1-3/4	1/8
28280	3-1/2	1-5/16	3/8	3/8	2-1/4	1/8
27793	4	1-1/4	1/2	1/2	2-1/4	1/8
33862	5	1-3/4	3/8	1/2	3-1/2	1/8
101095	6	1-9/16 1-11/16	3/8	1/2	5-9/64	1/8 1/4
100998	6	1-1/2 1-5/8	1/2	1/2	4-11/16	1/8 1/4
128467	6	1-1/2	1/4	1/2	5-1/32 5-3/16	1/8 1/4

Standard Package = 1 wheel

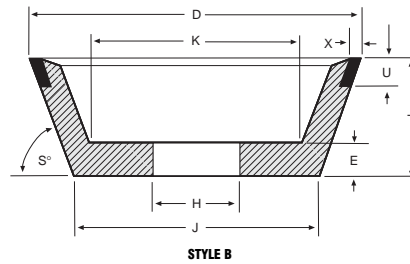
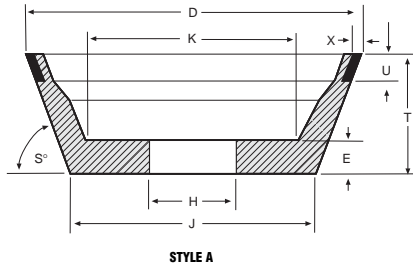
# Amplex Express Made-to-Order Diamond & CBN Service



## Type 11V9

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- E - BACK DIAMETER
- J - HUB DIAMETER
- K - INSIDE DIAMETER OF FLAT
- U - INSERT LENGTH
- S - FACE ANGLE
- X - ABRASIVE DEPTH

Listings available in Diamond or CBN

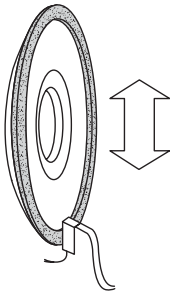


STYLE	DRAWING NUMBER	D	T	S	U	X
<b>Type 11V9 – Flaring Cup Wheels</b>						
B	51239	1	5/8	80°	1/4	1/16 1/8
A	88398	1-1/2	5/8	80°	1/4	1/8
B	51238	1-1/2	5/8	80°	1/4	1/8
B	58512	1-1/2	7/8	70°	1/4	1/16
B	89516	2	5/8	60°	1/4	3/32
B	55562	2	7/8	60°	5/16	1/16 1/8
B	42599	2	1	75°	3/8	1/16 1/8
A	93912	3	1-1/4	70°	3/8	1/16 1/8
A	92192	3-3/4	1-1/2	70°	3/8	1/16 1/8
A	130503	100MM	35MM	70°	6MM	1.5MM 3.0MM
A	130500	100MM	35MM	70°	10MM	1.5MM 3.0MM
A	130501	125MM	40MM	70°	10MM	1.5MM 3.0MM
A	98298	5	1-3/4	70°	7/16	1/16 1/8
A	85913	6	1-3/4	70°	1/2	1/16 1/8

Standard Package = 1 wheel

**Customer to specify hole size, subject to safety standards.**

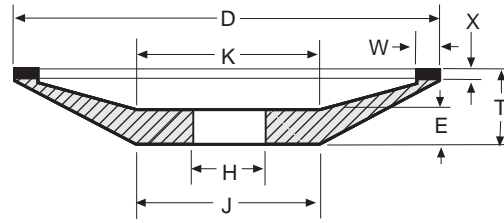




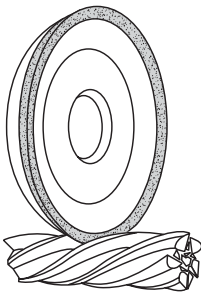
## Type 12A2

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- E - BACK THICKNESS
- J - HUB DIAMETER
- K - INSIDE DIAMETER OF FLAT
- W - RIM WIDTH
- X - ABRASIVE DEPTH

Listings available in Diamond or CBN



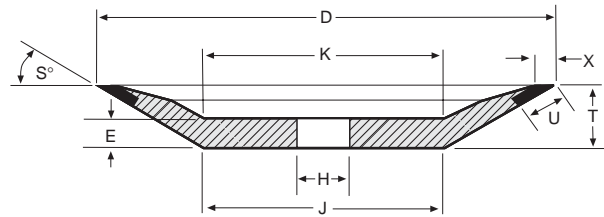
DRAWING NUMBER	D	T	W	E	K	X
<b>Type 12A2 – Dish Wheels</b>						
40747	3	9/16	1/4	5/16	1-1/2	1/8
27757	3	15/16	1/8	3/8	1-1/2	1/8
27174	3	15/16	1/4	3/8	1-1/2	1/8
40745	4	9/16	1/4	5/16	2-1/4	1/8
40746	4	9/16	3/8	5/16	2-1/4	1/8
73686	6	9/16	3/16	5/16	3-1/4	1/8
27758	6	1-1/16	3/16	1/2	2-5/8	1/8
27175	6	1-1/16	1/4	1/2	2-5/8	1/8
33914	6	1-1/16	3/8	1/2	2-5/8	1/8
73752	8	1-3/32	3/8	15/16	4-5/8	5/32



## Type 12V9

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- E - BACK THICKNESS
- J - HUB DIAMETER
- K - INSIDE DIAMETER
- U - INSERT LENGTH
- S - FACE ANGLE
- X - ABRASIVE DEPTH

Listings available in Diamond or CBN



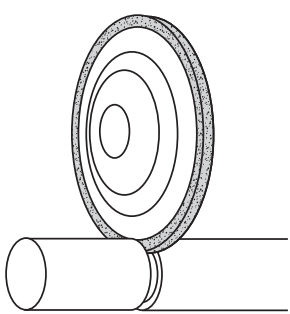
DRAWING NUMBER	D	T	E	K	S	U	X
<b>Type 12V9 – Dish Wheels</b>							
41755	3	7/16	5/16	1-1/2	30°	7/16	1/16 1/8
78406	3	1/2	1/4	1-1/2	30°	1/4	1/8
69978	3	13/16	3/8	1-3/8	45°	11/32	1/16 1/8
37191	3	13/16	3/8	1-3/8	45°	1/2	1/16 1/8
58734	4	1/2	1/4	2-1/4	30°	1/4	1/16 1/8
80849	4	7/8	3/8	2-1/4	45°	13/32	1/16 1/8
120095	5	.709	.394	3-13/32	45°	.394	3/32
73312	6	1/2	5/16	4-17/64	30°	3/8	1/16 1/8
109758	6	3/4	3/8	2-1/4	25°	1/2	1/16
98875	6	3/4	.610	2-1/2	25°	1/2	.148
48666	6	3/4	3/8	3-13/32	30°	3/8	1/16 1/8
118022	6	1	1/2	3-1/32	30°	1/2	1/16 1/8
44377	6	1	1/2	4	45°	3/8	1/8
54386	6	1-1/2	3/8	3	45°	17/32	1/16

Standard Package = 1 wheel



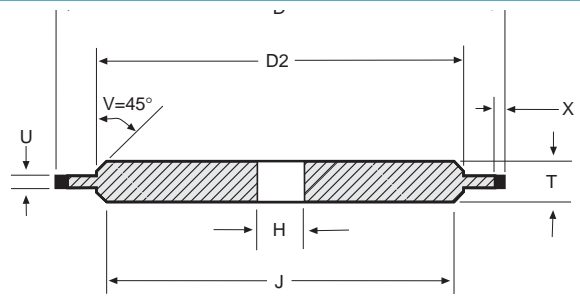
# Amplex Express Made-to-Order Diamond & CBN Service

## Type 14A1



- D - DIAMETER
- T - THICKNESS
- H - HOLE
- D2 - LARGE HUB DIAMETER
- X - ABRASIVE DEPTH
- U - ABRASIVE THICKNESS
- J - HUB DIAMETER

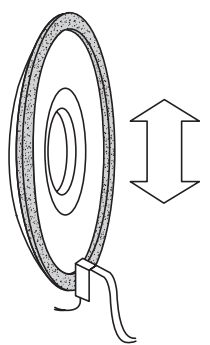
Listings available in Diamond or CBN



DRAWING NUMBER	D	T	J	U	X
<b>Type 14A1 – Hub 2-Sides</b>					
54382	6	1/2	4-15/16	1/16	1/8
41276	6	1/2	4	1/8	1/16
34745	7	1/2	3-15/16	1/8	1/8
41385	10	1/2	7	1/4	1/16
					1/8

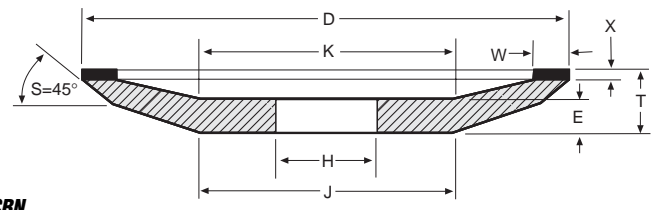
Standard Package = 1 wheel

## Type 15A2



- D - DIAMETER
- T - THICKNESS
- H - HOLE
- X - ABRASIVE DEPTH
- J - HUB DIAMETER
- W - RIM WIDTH
- E - BACK THICKNESS
- K - INSIDE DIAMETER OF FLAT

Listings available in Diamond or CBN

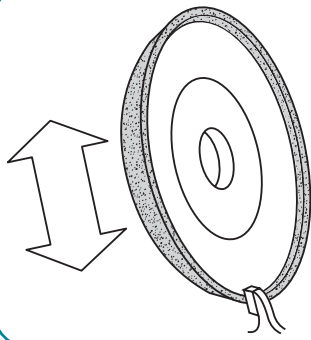


DRAWING NUMBER	D	T	W	E	K	S	X
<b>Type 15A2 – Dish Wheels</b>							
32717	6	13/16	1/8	7/16	3-1/8	45°	1/8
32718	6	13/16	3/16	7/16	3-1/8	45°	1/8
32719	6	13/16	1/4	7/16	3-1/8	45°	1/8
32720	6	13/16	3/8	7/16	3-1/8	45°	1/8

Standard Package = 1 wheel

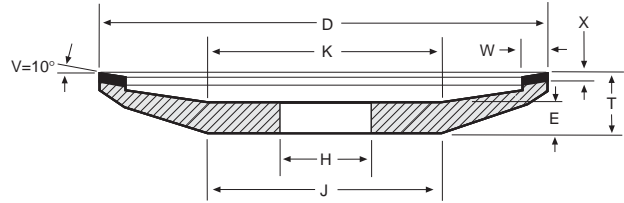
Customer to specify hole size, subject to safety standards.





## Type 15V4

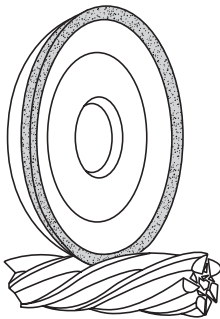
- D - DIAMETER
- T - THICKNESS
- H - HOLE
- E - BACK THICKNESS
- K - INSIDE DIAMETER OF FLAT
- X - ABRASIVE DEPTH
- V - FACE ANGLE = 10°
- W - RIM WIDTH
- J - HUB DIAMETER
- S - BACK ANGLE



Listings available in Diamond or CBN

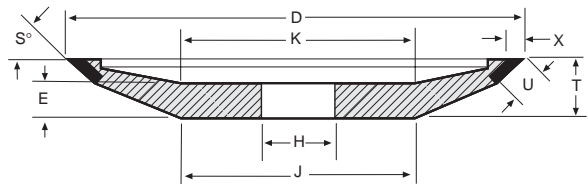
DRAWING NUMBER	D	T	W	E	K	S	X
<b>Type 15V4 – Dish Wheels</b>							
29109	3	15/16	1/8	3/8	1-1/2	30°	1/8
40846	6	13/16	1/8	7/16	3-1/8	45°	1/8
40847	6	13/16	3/8	7/16	3-1/8	45°	1/8
40844	6	1-1/16	1/8	1/2	2-5/8	30°	1/8

Standard Package = 1 wheel



## Type 15V9

- D - DIAMETER
- T - THICKNESS
- H - HOLE
- X - ABRASIVE DEPTH
- E - BACK THICKNESS
- J - HUB DIAMETER
- K - INSIDE DIAMETER
- U - INSERT LENGTH
- S - FACE ANGLE



Listings available in Diamond or CBN

DRAWING NUMBER	D	T	E	S	U	X
<b>Type 15V9 – Dish Wheels</b>						
78452	2	1/2	5/16	45°	3/16	1/8
95738	2-1/2	1/2	3/8	45°	1/4	1/16
70688	3	1/2	1/4	45°	5/16	1/16 1/8
106011	3-1/2	3/4	7/16	45°	3/8	1/16
109735	4	1/2	5/16	45°	9/32	1/16 1/8
54577	4	3/4	7/16	45°	9/32	1/16 1/8
68744	5	3/4	7/16	45°	9/32	1/8
52205	5	1-3/8	1/2	45°	1/2	1/16 1/8
75786	6	3/4	3/8	30°	3/8	1/16 1/8
40633	6	3/4	7/16	45°	3/8	1/16 1/8
55489	8	3/4	7/16	45°	3/8 13/32	1/16 1/8

Standard Package = 1 wheel

# Metal-Bond Diamond Wheels

## AMP Metal Bond Diamond Wheels

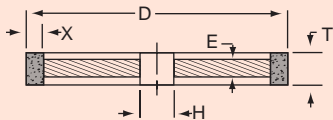
### FEATURES

- Strong, blocky shaped diamond
- Durable metal bond

### BENEFITS

- Long life
- Low cost, free cutting

Suitable for use on hard, brittle materials such as glass, ceramics, quartz refractories and other nonmetallics. All Metal Bond wheels must be operated with a coolant.



TYPE 1A1R

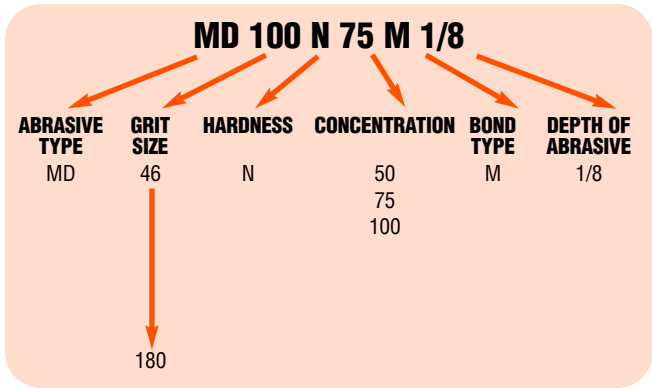


UPC NO.	PRODUCT NO.	DIAMETER	THICKNESS	HOLE	SPECIFICATION
<b>Type 1A1R Cut-off – Diamond</b>					
66260379300*	MET700	6	.025	1-1/4	MD150-N100M-1/8
66260379302*	MET701	6	.035	5/8	MD100-N75M-1/8
66260379304*	MET702	6	.035	1-1/4	MD100-N75M-1/8
66260379306*	MET703	6	.035	1-1/4	MD150-N75M-1/8
66260379307*	MET704	6	.055	1-1/4	MD100-N75M-1/8
66260379309+	MET705	7	.025	1-1/4	MD120-N75M-1/8
66260379310	MET706	7	.025	1-1/4	MD180-N75M-1/8
66260379311+	MET707	7	.040	1-1/4	MD120-N75M-1/8
66260379312+	MET708	7	.055	1-1/4	MD120-N100M-1/8
66260379314*	MET710	8	.050	1-1/4	MD120-N75M-1/8
66260379315	MET711	8	.050	1-1/4	MD180-N75M-1/8
66260379319+	MET714	8	.055	1-1/4	MD46-N75M-1/8
66260379317*	MET713	8	.055	1-1/4	MD80-N75M-1/8
66260379316+	MET712	8	.055	1-1/4	MD100-N75M-1/8
66260379321*	MET716	10	.060	5/8	MD80-N50M-1/8
66260379320*	MET715	10	.060	5/8	MD120-N50M-1/8
66260379323+	MET718	14	.060	3/4	MD120-N75M-1/8

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.

### Marking System



### MAXIMUM OPERATING SPEEDS

Metal Bond Cut-off (steel center) Type 1A1R .....16,000 SFPM

### RECOMMENDED OPERATING SPEEDS

The preceding wheel speed is the maximum safe speed and is not necessarily the most efficient. Superabrasive diamond products operate most effectively at speeds lower than the maximum.

Metal Bond Cut-off. .... 7,000 to 10,000 SFPM

The following formula may be used to quickly calculate wheel speed:

**SFPM = wheel speed in RPM x wheel diameter in inches x .262**

For additional Tech Tips, see pages 18 –19.



# Vitrified Dressing Sticks

## Aluminum Oxide and Silicon Carbide ● ▲ ■

### FEATURES

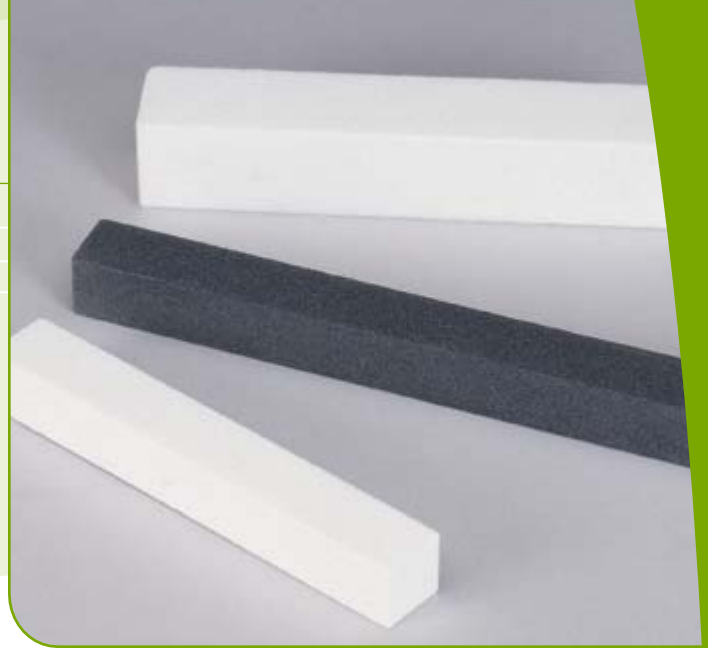
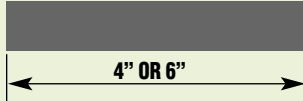
- Black silicon carbide abrasive
- White aluminum oxide abrasive

### BENEFITS

- Sharp, durable
- Free dressing action

Truing, cleaning and dressing diamond, CBN and conventional abrasive wheels. Dressing enhances the grain exposure.

Prior to dressing, a wheel may seem to be “loaded”, producing poor cutting performance and workpiece burning. If the wheel later produces burning or poor cutting, the same stick can be used to reopen the wheel.



UPC NO.	PRODUCT NO.	DIMENSIONS	SPECIFICATION
<b>Aluminum Oxide</b>			
66260303309	07214	4 x 3/4 x 3/4	AA150-HV40
66260303390	07210	6 x 1/2 x 1/2	AA150-IV40
66260303391	07211	6 x 1/2 x 1/2	AA220-HV40
66260303392	07231	6 x 1 x 1	AA150-IV40
66260303393	07232	6 x 1 x 1	AA220-HV40

UPC NO.	PRODUCT NO.	DIMENSIONS	SPECIFICATION
<b>Silicon Carbide</b>			
66260303394	*07206	6 x 1/2 x 1/2	C150-KVGC
66260303395	07207	6 x 1/2 x 1/2	C150-LVGC
66260303396	07208	6 x 1/2 x 1/2	C220-KVGC
66260303397	07222	6 x 1 x 1	C150-KVGC

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

## techtips

### Dressing Diamond and CBN Wheels

- Resinoid-Bond, Diamond and CBN Wheels
  - Choose a dressing stick one or two grit sizes finer than the abrasive in the wheel – in a soft grade (H or I).
- Metal-Bond, Diamond and CBN Wheels
  - Choose a stick the same grit size or one grit size coarser than the abrasive in the wheel – in a medium grade (K–M).



It is the user's responsibility to refer to and comply with ANSI B7.1

SUPERABRASIVE WHEEL SPECIFICATION	DRESSING STICK STARTING SPEC
<b>Resinoid-Bond Diamond and CBN Wheels</b>	
100 grit and coarser	AA150-IV40
120 grit and finer	AA220-HV40
<b>Metal-Bond Diamond Wheels</b>	
80 grit and coarser	AA150-IV40
100 through 180 grit	C150-LVGC

Selecting the appropriate dressing stick for your superabrasive wheel depends on the workpiece composition, wheel size, type, speed, and specification. These recommendations should be used as starting points only.

For more information on truing and dressing, refer to the “Mounting, Truing and Dressing Guide” on page 18.

# Diamond Dressing Tools & Truing Devices – General Information

## Abrasive

### Natural Diamond

Natural diamonds, being a product of nature, do differ in size, color, shape, and, most of all, quality. The quality of a diamond is the primary factor in its performance and useful life. Amplex offers a wide range of diamond qualities to meet your exact needs.

### Diamond Grits

Natural diamond grit is obtained by crushing and sieving larger natural diamonds. This material is then used, as is, or processed further to more uniform shapes.

## Selecting the Correct Diamond Tool

To determine the type of Amplex dressing tool to use, it is best to think about the desired shape of the finished wheel face. Finished wheel face shapes are generally categorized into six typical wheel forms as illustrated below.

### Typical Wheel Forms Dressed by Stationary Diamond Tools



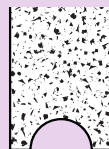
Straight



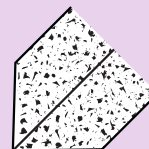
Tapered



Convex



Concave



Angled



Multi-Angled

#### If you know the tool:

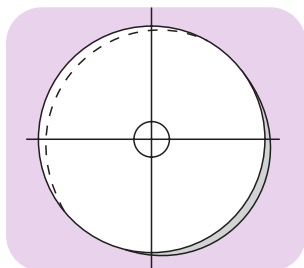
Match your tool to the drawings in the following section. Then review the recommended tools' features and benefits to choose the best tool for your operation. If you need engineering assistance or a custom-made tool, contact your local Amplex distributor or call: Technical Assistance 508-368-8567

#### If you don't know the tool, but know the wheel form needed:

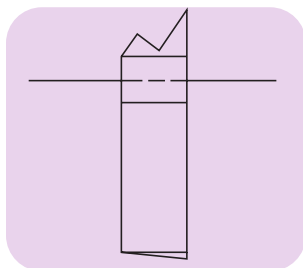
Find the type of wheel form to be dressed using the wheel form symbols shown throughout these pages. Note the appropriate tool(s).

## Truing the Wheel

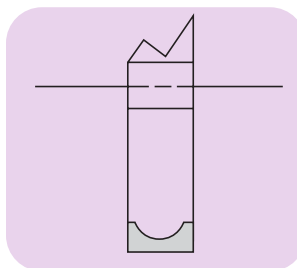
Primarily done during the initial set-up, truing involves three basic operations:



Cleaning the wheel to make it run true with the axis of rotation



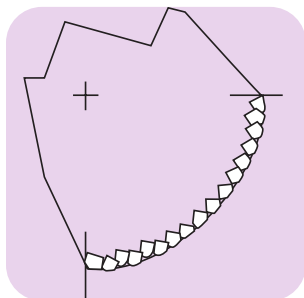
Restoring the wheel profile to proper geometry in response to wheel breakdown



Changing the profile of the wheel to the desired shape

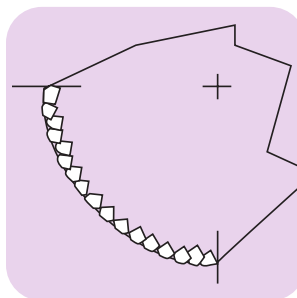
## Dressing the Wheel

Dressing is done intermittently throughout the operation – after a certain number of parts are ground, as wheel loads, closes up, etc. – to keep the wheel at peak performance.



Removing dull abrasive particles opens the wheel, which increases stock removal rates, and decreases surface finish quality.

Dulling the abrasive particles closes the wheel, which increases surface finish quality, and decreases stock removal rates.



Removing foreign material from a "loaded" wheel opens the wheel, exposing new cutting grains.

## Resetting – Minimizing Your Cost

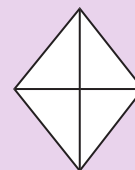
Buying a higher quality diamond is your best value, especially if you participate in a proactive resetting program. Although initial cost may be higher, the payback comes through several factors:

- Diamond durability, providing longer tool life
- Tighter form tolerances
- Consistent finish rates
- Resetting the diamond lowers the overall tooling cost

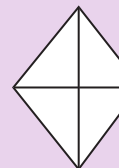
Used properly, the overall cost of a higher quality, resettable diamond will compare favorably with that of an inexpensive, non-resettable diamond. Initially, the best diamond point is selected for use. When returned, the next best diamond point is selected for resetting, and so on.

To ensure you get the best value for your diamond:

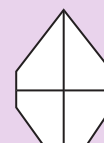
- Rotate the diamond tool ¼ turn periodically to maintain a sharp point
- Use proper flow of coolant to protect the diamond from heat which can create fracturing of the diamond
- Excessive wear on the diamond point may impact the ability to reset the diamond. The widest point of the diamond is referenced as the girth. The diamond girth is buried in a powder metal matrix. Using a diamond into the girth zone may impact the ability to reset other diamond points.



New



1st Reset



Multiple Resettings

## Guidelines for Lead Selection

Use the optimum traverse rate of a diamond tool to appropriately condition the wheel face for your grinding operation.

- Slower lead (and traverse rate) tends to close up the wheel face to provide:
  - Better finishes (low RMS/Ra readings)
  - Lower stock removal rates
- Faster lead (and traverse rate) tends to open up the wheel face to provide:
  - Faster stock removal rates (“hungry” wheel)
  - Rougher finishes (high RMS/Ra readings)

### Formula for Traverse Rate Calculation

Speed of Wheel (RPM) x Lead Selection Per Wheel Revolution = Traverse Rate (Inches Per Minute)

$$\text{RPM} = \text{SFPM} / (\text{Wheel Diameter} \times 0.262)$$

TOOL TYPE	LEAD SELECTION / TRAVERSE RATE
<b>Single-Point Tools</b>	Coarse Finish = .008" - .010" per wheel revolution
<b>Form Tools</b>	Medium Finish = .005" - .007" per wheel revolution
	Fine Finish = .002" - .004" per wheel revolution
<b>Example – Single Point</b>	
Wheel:	14 x 1-1/2 x 5" 5SG60-KVS
Tool:	T4SGB (1/2 carat Single-Point)
Wheel Speed:	6500 SFPM = 1773 RPM
Stock Removal/Finish:	Medium/32 RMS
Lead Selection:	.006" per wheel revolution
Travers Rate:	1773 x .006 = 10.6" per minute traverse
<b>Multi-Point Tools (Nibs)</b>	Coarse Finish = .023" - .030" per wheel revolution
<b>Blade Tools</b>	Medium Finish = .013" - .022" per wheel revolution
<b>Cluster Tools</b>	Fine Finish = .006" - .012" per wheel revolution
<b>Example – Multi-Point</b>	
Wheel:	7 x 1 x 1-1/4" 32A60-KVBE
Tool:	GT-7 (1/4" round grit tool)
Wheel Speed:	6500 SFPM = 3547 RPM
Stock Removal/Finish:	Coarse/64 RMS
Lead Selection:	.024" per wheel revolution
Traverse Rate:	3547 x .024 = 85.1" per minute traverse

# Diamond Dressing Tools & Truing Devices – General Information

## Positive Influences on Stationary Tools

### Coolant – Dress Wet

- Use coolant with ample pressure, volume, and filtration whenever possible.
- A stationary tool used with coolant will last longer than a tool used without coolant.

### Rigid Tool Holder

- A rigid tool holder will keep vibration to a minimum.
- Vibration in the tool holder will create an inconsistent surface on the grinding wheel and eventually cause the diamond in the tool to crack.

### Minimal Infeeds

- Using manufacturer's suggested amounts will allow for maximum tool life.
- Avoid excessive infeeds – excessive infeed creates damaging heat and a tendency to damage the diamond.

### Proper Alignment

- Blade and Chisel-type tools require proper alignment to perform correctly and obtain maximum life expectancy.

## Troubleshooting Guide

PROBLEM	POSSIBLE CAUSES	SUGGESTED CORRECTION
<b>Chatter</b>	Tool not secure Diamond traversing too slowly Wheel loaded Worn diamond	Remount or check for worn or loose holder Use faster traverse Dress more frequently Rotate tool or replace
<b>Burn</b>	Tool traversing too slowly Poor coolant on part and tool Diamond too flat Diamond too large	Increase traverse rate Increase coolant flow at point of contact Rotate or replace tool Reduce size or try multi-point tool
<b>Scratches</b>	Wheel too rough Coolant	Slow down traverse Check filtration
<b>Diamond lines</b>	Traversing too fast No dwell time	Slow down dress rate Increase sparkout
<b>Inaccuracies in parts</b>	Cam worn Poor mounting Worn tool Tool too tight	Replace temple and follower Check mounting and alignment Check rest and locations for movement Tool is bent. Replace.
<b>Parts too hot</b>	Dressing too slowly Diamond too flat	Increase crossfeed rate Rotate or replace tool
<b>Wheel is loaded</b>	Dressed too infrequently Infeed too light	Dress more often Increase infeed amount
<b>Wheel acts too soft</b>	Overdressing	Reduce infeed rate and slow crossfeed
<b>Wheel doesn't cut</b>	Wheel closed	Increase infeed rate and increase crossfeed
<b>Short diamond life</b>	Vibration Lack of coolant Infeed cycle Poor mounting Hogging	Remove shock from diamond contact area Clean coolant line Reduce excessive infeed Secure tool, do not over-tighten, seat into holder properly Do not exceed recommended infeeds If single-point - rotate tool, use drag angle. If multi-point - must be flush with wheel face, increase from single-point crossfeed rate, break in tool correctly.
<b>Diamond Breakage</b>	Storage Pressure Temperature	Keep protected from shock Reduce heavy infeed Control sudden changes



# Dressing Tools

## Single Point Tools ●▲

### Selecting the Correct Single Point Tool

- Identify the wheel abrasive type: A/O, S/C or Ceramic (SG)
- Determine wheel diameter – to select the optimum carat weight
- Determine tool holder size – to select the appropriate shank diameter

### Single Point Tool Carat Weight Recommendations

WHEEL WIDTH	WHEEL DIAMETER					
	4"	6-7"	8-10"	12-14"	16-18"	20-24"
1/2"	1/5	1/4	1/3	1/2	3/4	1
3/4"	1/4	1/3	1/2	3/4	1	
1"	1/2	3/4	1			
2"	3/4					

### Examples of Single Point Tool Selection

Wheel Spec: 32AR46-IV40 7" x 1/2" x 1-1/4"  
 Customer's machine has a 7/16" tool holder

Tool Selections:  
 Resettable: T2TB  
 Non-Resettable: T1UB

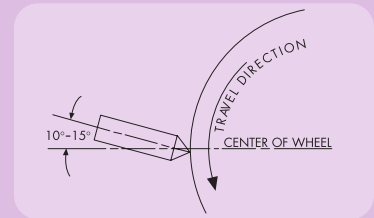
Wheel Spec: SG60-JVL 10" x 1" x 3"  
 Customer's machine has a 3/8" tool holder

Tool Selections:  
 Resettable: T3SGB  
 Non-Resettable: T3SUB



## techtips

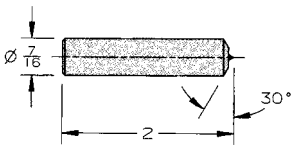
- Rigidly mount Single Point tools at a 10° - 15° angle to the wheel centerline with a line drawn through the center of the wheel, pointing in the direction of wheel travel.
- Point of contact should be slightly below centerline of wheel as shown.
- Use coolant whenever possible.
- Normal infeed is .001" per pass.
- Lead selections range from .002" - .010" per wheel revolution.
- Rotate the tool 1/4 turn periodically to maintain a sharp point.



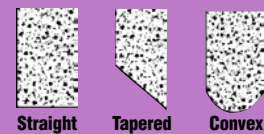
### Single Point Marking System

**T 4 T B**

SHANK SHAPE	CARAT WEIGHT	QUALITY	SHANK DIAMETER
H	1 = 1/5	F	A = 3/8
T	2 = 1/4	S	B = 7/16
	3 = 1/3	E	
	4 = 1/2	T	
	5 = 3/4	U	
	6 = 1		



Wheel Forms Dressed by These Tools



To optimize applications using ceramic abrasives and/or tools, normal dressing parameters must change. Reduce infeed by 25%. Significant reductions in the amount of infeed and frequency of dress will result in substantially lower cost per part ground.

## SG Single Point Tools for Ceramic (SG) and Silicon Carbide Wheels ●▲

### FEATURES

- Specially selected, durable, broad-shaped diamond
- Multi-purpose

### BENEFITS

- Stands up to ceramic alumina abrasive sharpness
- Long tool life
- Fast truing and dressing action
- Accommodates most straight and simple form dressing jobs
- Use to dress SG (ceramic) or conventional abrasives

Specifically engineered to withstand extreme abrasive grinding wheel dressing pressures of ceramic and silicon carbide wheels.

Utility grade SG single points are the best choice when a disposable tool is preferred for truing ceramic alumina and silicon carbide grinding wheels.

Note: To optimize applications using ceramic alumina abrasives and/or tools, normal dressing parameters must change. Reduce infeed by 25%. Significant reductions in the amount of infeed and frequency of dress will result in significantly lower cost per part ground.

UPC NO.	PRODUCT NO.	NOMINAL CARAT WEIGHT	SHANK DIAMETER
---------	-------------	----------------------	----------------

### SG Single Point Tools

66260301991 *	T2SGB	1/4	7/16
66260301992	T3SGB	1/3	7/16
66260302658 *	T4SGB	1/2	7/16
66260301994 *	T7SGB	3/4	7/16

These tools can be reset.

### Utility Grade SG Single Point Tools

66260303333	T2SGUA	1/4	3/8
66260303334 *	T2SGUB	1/4	7/16
66260303335	T3SGUA	1/3	3/8
66260303336 *	T3SGUB	1/3	7/16
66260303338	T4SGUA	1/2	3/8
66260303337	T4SGUB	1/2	7/16
66260303339 *	T5SGUB	3/4	7/16
66260303340	T6SGUB	1	7/16

These tools can not be reset.

### TARGET MARKET SYMBOLS:



\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.



# Dressing Tools

## Single Point Tools for Aluminum Oxide Wheels ●▲

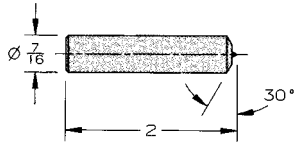
### FEATURES

- Sharp, long lasting diamond
- Various grades and qualities

### BENEFITS

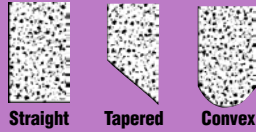
- Long tool life
- Fast truing and dressing action
- Accommodate various precision dressing applications

Most popular for straight dressing of aluminum oxide abrasive wheels.



T SHANK - AVAILABLE IN EITHER 3/8" OR 7/16" DIAMETER SHANK.

### Wheel Forms Dressed by These Tools



UPC NO.	PRODUCT NO.	CARAT WEIGHT	SHANK DIAMETER
<b>Grade S - Can be reset twice</b>			
66260300992 *	T3SA	1/3	3/8
66260301017	T3SB	1/3	7/16
66260300996 *	T4SA	1/2	3/8
66260301106 *	T4SB	1/2	7/16
66260301000 *	T5SA	3/4	3/8
66260301025	T5SB	3/4	7/16

continued

UPC NO.	PRODUCT NO.	CARAT WEIGHT	SHANK DIAMETER
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### Grade E - Can be reset once

66260300989	T2EA	1/4	3/8
66260301015 *	T2EB	1/4	7/16
66260300993 *	T3EA	1/3	3/8
66260301018	T3EB	1/3	7/16
66260300997 *	T4EA	1/2	3/8
66260301022 *	T4EB	1/2	7/16
66260301001 *	T5EA	3/4	3/8
66260301026 *	T5EB	3/4	7/16
66260301005 *	T6EA	1	3/8
66260301030 *	T6EB	1	7/16

### Grade T - May allow one reset

66260300990	T2TA	1/4	3/8
66260301014	T2TB	1/4	7/16
66260300994	T3TA	1/3	3/8
66260301019	T3TB	1/3	7/16
66260300998 *	T4TA	1/2	3/8
66260301023	T4TB	1/2	7/16
66260301002 *	T5TA	3/4	3/8
66260301027 *	T5TB	3/4	7/16
66260301006 *	T6TA	1	3/8
66260301031	T6TB	1	7/16

### Grade U - No Reset

66260301127	T1UA	1/5	3/8
66260357605 *	T1UB	1/5	7/16
66260357634	T2UA	1/4	3/8
66260357635	T2UB	1/4	7/16
66260357678 *	T3UA	1/3	3/8
66260357679	T3UB	1/3	7/16
66260368027	T4UA	1/2	3/8
66260357714	T4UB	1/2	7/16
66260357733	T5UA	3/4	3/8
66260357734	T5UB	3/4	7/16
66260357747	T6UA	1	3/8
66260368043	T6UB	1	7/16

## Indexable Single Point Tools for Aluminum Oxide Wheels ●▲

### FEATURES

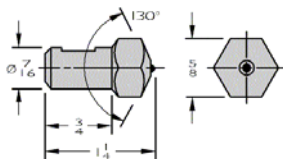
- Sharp, long lasting quality diamond
- Rotating hex-head design

### BENEFITS

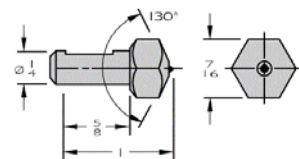
- Long tool life
- Fast truing and dressing action
- Allows tool rotation without reclamping

Selection of the correct tool and a proactive resetting program will usually result in the lowest dressing cost per part.

Used in place of standard single point tools to maximize dressing tool life and ensure consistency of dressed wheel face. Indexable tools allow rotation of the diamond without having to loosen, rotate and reclamp the tool. When turning the tool, an ordinary wrench is used to rotate the head the desired amount. Tools can be reset.



G SHANK



F SHANK

UPC NO.	PRODUCT NO.	CARAT WEIGHT	SHANK DIAMETER
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### G Shank Diamond Single Point Tools

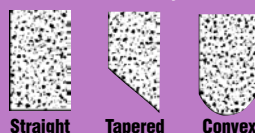
66260305393 *	IT1EG	1/5	7/16
66260305395 *	IT2EG	1/4	7/16
66260305396 *	IT3EG	1/3	7/16
66260305397 *	IT4EG	1/2	7/16
66260305398 *	IT5EG	3/4	7/16
66260305399 *	IT6EG	1	7/16

### F Shank Diamond Single Point Tools

66260305394 *	IT1EF	1/5	1/4
66260305400 *	IT2EF	1/4	1/4
66260305401 *	IT3EF	1/3	1/4
66260305402 *	IT4EF	1/2	1/4

These tools have two resettable points.

### Wheel Forms Dressed by These Tools



# Dressing Tools

## Thrifline Indexable Single Point Tools for Aluminum Oxide Wheels ● ▲

### FEATURES

- Sharp, long lasting diamond
- Rotating hex-head design

### BENEFITS

- Long tool life
- Fast truing and dressing action
- Allows tool rotation without reclamping

*The best selection when a resetting program is not feasible or low initial cost is the primary concern. Ideal for toolroom applications.*

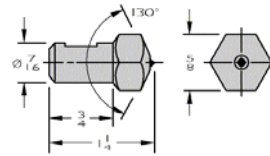
*Used in place of standard single point tools to maximize dressing tool life and ensure consistency of dressed wheel face. Indexable tools allow rotation of the diamond without having to loosen, rotate and reclamp the tool. When turning the tool, an ordinary wrench is used to rotate the head the desired amount.*

UPC NO.	PRODUCT NO.	CARAT WEIGHT	SHANK DIAMETER
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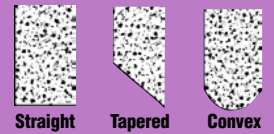
### Thrifline – G Shank Diamond Single Point Tools

66260305406 *	IT2UG	1/4	7/16
66260305407 *	IT3UG	1/3	7/16
66260305408 *	IT4UG	1/2	7/16

*These tools cannot be reset.*



Wheel Forms Dressed by These Tools

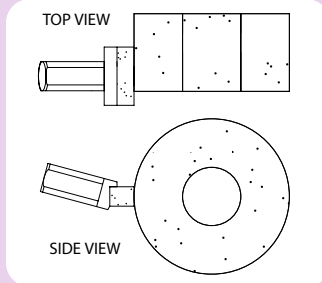


## Multi-Point Tools (Nibs) ● ▲

# techtips

### Multi-Point Tools – Straight Face Dressing and Truing

- Most multi-point tools are used for straight face dressing.
- Tool should have full face contact with the wheel.
- With new tool, 3–5 passes at .005" per pass should be taken to expose diamonds.
- Infeed per pass .001" - .002"
- Use coolant whenever possible.
- Use appropriate lead (and traverse rate).



### Formula for Traverse Rate Calculation

$$\text{WHEEL SPEED (RPM)} \times \text{LEAD/WHEEL REV.} = \text{TRAVERSE RATE (INCH/MINUTE)}$$

$$\text{RPM} = \text{SFPM} \div (\text{WHEEL DIAMETER} \times 0.262)$$

TOOL TYPE	LEAD SELECTION
Multi-Point Tools	Coarse Finish = .023 - .030 per wheel revolution
	Medium Finish = .013 - .022 per wheel revolution
	Fine Finish = .006 - .012 per wheel revolution

- Slower traverse rates result in a closed wheel face that produces less stock removal and improved workpiece finish.
- Faster traverse rates result in an open wheel face that produces greater stock removal and a rougher workpiece finish.



It is the user's responsibility to refer to and comply with ANSI B7.1



### Selecting the Correct Multi-Point Tool

- Identify the wheel abrasive type: SG (ceramic), A/O, or S/C
- Determine the wheel diameter and grit size
- Determine the tool's approach angle to the centerline of the wheel
- Identify the tool holder diameter
- Use 1E shape for angular wheel slide, cylindrical grinding and for shoulder or step truing

### Examples of Multi-Point Tool Selection

Conventional Wheel Spec: 32AR46-IV40 7" x 1/2" x 1-1/4"  
 Customer's machine has a 7/16" tool holder  
 Tool Selection: GT-7

SG Wheel Spec: SG60-JVL 10" x 1" x 3"  
 Customer's machine has a 7/16" tool holder  
 Tool Selections: SGT-7

# Dressing Tools

## Multi-Point Tools (Nibs) ● ▲

### FEATURES

- Uniformly distributed diamonds in a tough, durable matrix
- Fresh, multiple diamond points exposed in truing operation; no turning or resetting required
- Overall diamond weight exceeds equivalent single point tool
- SGT grit tools have higher diamond concentration

### BENEFITS

- Consistent performance throughout tool life
- Faster, more consistent straight face dressing with maximum efficiency and longer tool life than single point tools
- The most economical way to dress straight and tapered forms
- Longer tool life

**Amplex offers two types of multi-point tools for straight dressing large diameter grinding wheels; GT for aluminum oxide abrasive wheels and SGT for ceramic alumina and silicon carbide abrasive grinding wheels.**

### SGT Diamond Multi-Point Tools For Ceramic and Silicon Carbide Wheels

- These tools contain almost three times the diamond concentration of standard multi-point tools (higher concentrations withstand extreme pressures better).
- Tool infeed should not exceed .002" per pass.
- Significant reduction of infeed and frequency of dress will result in lower cost per part ground.
- Traverse rates should be between .006" - .030" per revolution.
- When first using an SG tool, make 4 or 5 passes at .0005" infeed to ensure full face contact between the dressing tool and the wheel face.

### Diamond Multi-Point Tools for Aluminum Oxide Wheels

- Because of the large diamond section, dressing can be accomplished quickly.
- Normal tool infeed is .001" and can range up to .002".
- Traverse rates can range from 12 IPM to 24 IPM and can go to 40 IPM when the only wheel requirement is for stock removal.
- When first installing a multi-point tool, make 4 or 5 passes at .0005" infeed to ensure full face contact between the dressing tool and the wheel face.

UPC NO.	PRODUCT NO.	WHEEL DIAMETER	TOOL APPROACH ANGLE	TOOL DIAMETER
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### SGT Diamond Multi-Point Tools

#### For Ceramic and Silicon Carbide Wheels

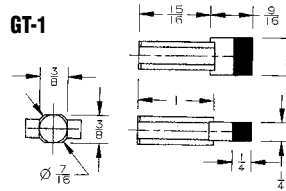
66260301996 *	SGT-3	15" to 20"	15°	7/16"
66260301997	SGT-4	21"+	0°	7/16"
66260301998 *	SGT-7	up to 10"	0°	7/16"
66260301999 *	SGT-8	11" to 14"	0°	7/16"

### Diamond Multi-Point Tools

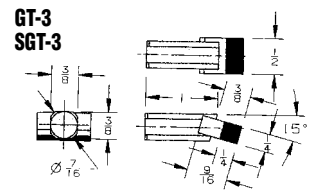
#### For Aluminum Oxide Wheels

66260301034	GT-1	15" TO 20"	0°	7/16"
66260301035	GT-3	15" TO 20"	15°	7/16"
66260301036	GT-4	21"+	0°	7/16"
66260301104 *	GT-6	21"+	15°	7/16"
66260301038	GT-7	up to 10"	0°	7/16"
66260301039	GT-8	11" to 14"	15°	7/16"

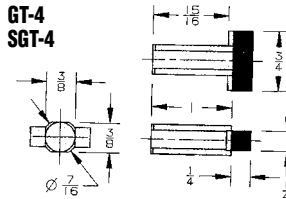
GT-1



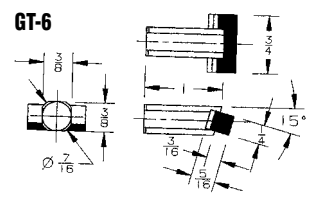
GT-3  
SGT-3



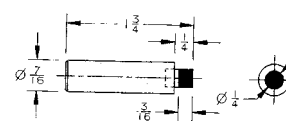
GT-4  
SGT-4



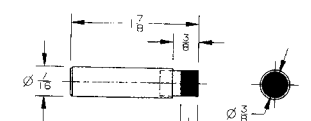
GT-6



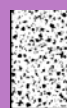
GT-7  
SGT-7



GT-8  
SGT-8



Wheel Forms Dressed by These Tools



Straight

# Form Tools

## techtips

Amplex form tools have diamond lapped to specific angles and radii required for a particular application, machine, contour dressing system or CNC operation. Due to the high degree of accuracy necessary, the diamond is of special shape and quality.

### How to Use Form Dressing Tools

- Form Tools should be used in compliance with the guidelines established for the machine or dress.
- Proper centerline and light infeeds are essential to minimize side pressure. Excessive pressure will cause the diamond to fracture.
- Cone point tools should be rotated approximately 1/4 turn daily.
- Chisel Point Tools should be rotated 180° when dulling or contour problems occur.

### How to Order Non-Stock Cone and Chisel Point Tools

- Order by tool type, included angle, radius and carat weight required.
- Unless otherwise specified, tools will be furnished in 3/8" x 2" shank as illustrated. Prices for radii not listed and/or other included angles will be quoted upon request.
- 7/16" diameter shank is available at no additional cost.

## Cone Point Tools ● ▲ new! technology

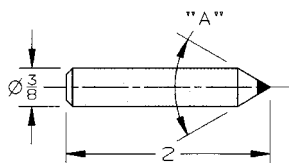
### FEATURES

- New proprietary vacuum braze, diamond-retention technology
- Accurately coned diamond to specific included angle and radius

### BENEFITS

- Surpasses all traditional manufacturing methods; absolute diamond retention
- Minimal diamond pull-out during dressing cycle
- Longer tool life through multiple relaps
- Tools are ideal when most intricate, precise forms and radii are required.

*Used for precision dressing when the most intricate form and radii are required.*



UPC NO.	PRODUCT NO.	INCLUDED ANGLE ON DIAMOND	RADIUS	NOMINAL DIAMOND SIZE
<b>Cone Point Tools – 3/8" Shank x 2" Overall Length</b>				
66260301049 *	CP2A60	60°	.010	.25
66260301050 *	CP3A60	60°	.015	.33
66260301051 *	CP4A60	60°	.015	.50
66260301052 *	CP2A75	75°	.010	.25
66260301053 *	CP3A75	75°	.010	.33
66260301123 *	CP4A75	75°	.015	.50
66260301055 *	CP2A90	90°	.010	.25
66260301056 *	CP3A90	90°	.010	.33
66260301057 *	CP4A90	90°	.015	.50

*These tools may be relapped.*

Wheel Forms Dressed by These Tools



## Chisel Point Tools ● ▲

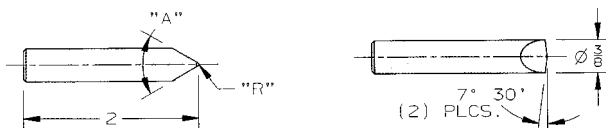
### FEATURES

- Precisely formed with sharp, long-lasting, quality diamond

### BENEFITS

- Long tool life
- Fast, exact truing and dressing action

*Designed to form intricate radii, steps or contours on toolroom-type applications.*



UPC NO.	PRODUCT NO.	INCLUDED ANGLE ON DIAMOND	RADIUS	NOMINAL DIAMOND SIZE
<b>Chisel Point Tools – 3/8" Shank x 2" Overall Length</b>				
66260301058	CE2A60	60°	.010	.25
66260301059 *	CE3A60	60°	.010	.33
66260301060 *	CE4A60	60°	.015	.50

*These tools may be relapped or reset/relapped.*

### TARGET MARKET SYMBOLS:



\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.



# Form Tools

## Standard Tools for Diaform Machines ● ▲

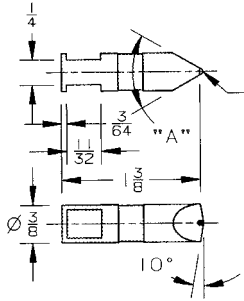
### FEATURES

- Sharp, long lasting diamond

### BENEFITS

- Long tool life
- Fast truing and dressing action

*Used primarily on Dia-Form machines to impart a radius or contour to a grinding wheel. The application dictates the tool to choose.*



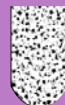
UPC NO.	PRODUCT NO.	RADIUS SIZE	INCLUDED ANGLE ON DIAMOND
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### Diamond Diaform Tools

66260300853 *	DF60005	.005	60°
66260300854 *	DF60010	.010	60°
66260300855 *	DF60015	.015	60°
66260300856 *	DF60020	.020	60°
66260300858 *	DF60025	.025	60°

**These tools can be relapped or reset/relapped.**

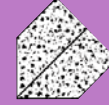
#### Wheel Forms Dressed by These Tools



Convex



Concave



Angled



Multi-Angled

# Cluster Tools

## Dia-Pak Tools ● ▲

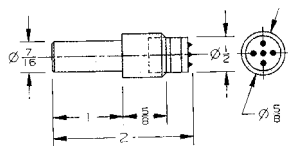
### FEATURES

- Sharp, long lasting diamond
- 3 layers of diamonds carefully arranged

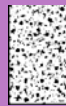
### BENEFITS

- Long tool life
- Fast, accurate truing and dressing action
- Maximum economy
- New layer is exposed before previous layer is worn completely away

*Designed specifically for straight face dressing of large diameter, coarse grit grinding wheels on single or double disc, centerless or surface grinders. These tools permit more rapid traverse and provide a freer cutting wheel than when dressed with a single point tool. Extremely versatile.*



#### Wheel Forms Dressed by These Tools



Straight



Tapered

UPC NO.	PRODUCT NO.	WHEEL SIZE D X T	DIAMONDS PER LAYER	SHANK DIAMETER
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### Diamond Dia-Pak Tools

66260301095	AC14MB	14 x 2	5-4-5	7/16
66260300847	AC20HB	20 x 8	7-6-7	7/16
66260300846 *	AC20MB	Any	7-6-7	7/16

**These tools cannot be reset.**

## Radius Tools ●▲

### FEATURES

#### Concave Radius Tools

- Specially-shaped single point diamond

#### Convex Radius Tools

- Specially-shaped single point diamond

#### Half-Circle Concave Radius Tools

- Specially-shaped diamond set into the side of the shank (commonly called a rat-tail dresser)

#### Thrifline Radius Tool

- Economy tool

Radius tools are primarily used on surface grinders to form the grinding wheel to an exact concave or convex radius. Although some tools are designed for use on a specific machine, many radius tools can be used on any grinder having the correct set-up.

Used generally on 8" diameter or smaller vitrified toolroom wheels.

### BENEFITS

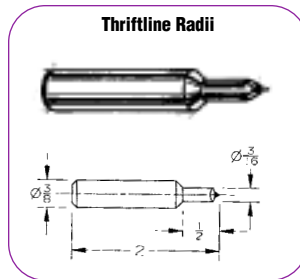
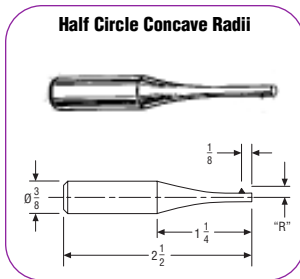
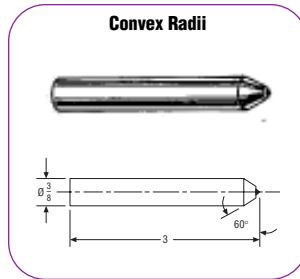
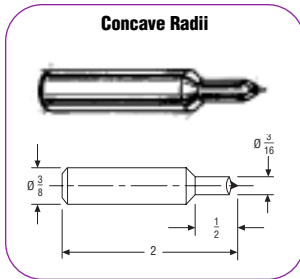
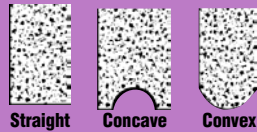
- For forming concave radii on small diameter grinding wheels

- For forming convex radii on small diameter grinding wheels

- For forming half-circle radii on small diameter grinding wheels
- Tool is rotated to form the radius

- For concave or convex dressing

#### Wheel Forms Dressed by These Tools



## Full Ball Radius Tools ●▲

### FEATURES

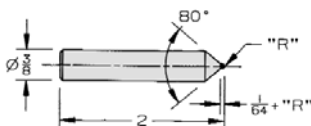
- Sharp, long lasting diamond

Designed to plunge dress a concave radius in the center of a grinding wheel. Frequent turning of the tool will maintain accuracy over a long period of use.

### BENEFITS

- Long tool life
- Fast truing and dressing action

#### Wheel Forms Dressed by These Tools



#### UPC NO. PRODUCT NO. TO DRESS A RADIUS OF SHANK DIAMETER

### Radius Tools To Form Convex Radii

66260301101 *	CX020125	.020 thru .125	3/8
66260300866 *	CX126250	.126 thru .250	3/8
66260300867 *	CX251500	.251 thru .500	3/8

These tools cannot be reset.

#### UPC NO. PRODUCT NO. TO DRESS A MIN. RADIUS OF SHANK DIAMETER

### Radius Tools To Form Half Circle Concave Radii

66260301098 *	RT032	.032	3/8
66260301097 *	RT062	.062	3/8
66260301099	RT125	.125	3/8

These tools cannot be reset.

#### UPC NO. PRODUCT NO. TO DRESS A RADIUS OF SHANK DIAMETER

### Radius Tools To Form Concave Radii

66260301163 *	CC035-062	1/32 to 1/16	3/8
66260303282	CC062-125	1/16 to 1/8	3/8
66260303283 *	CC125-250	1/8 to 1/4	3/8

These tools cannot be reset.

#### UPC NO. PRODUCT NO. TO DRESS A RADIUS OF SHANK DIAMETER

### Thrifline Radius Tool to Form Concave Radii

66260304954	CC031-250TL	1/32 thru 1/4	3/8
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This tool can not be reset.

## techtips

### How to Use Toolroom Tools

- We recommend dressing with coolant. However, if dressing totally dry, allow three to five seconds between passes for diamond to cool.
- Use extremely light cuts from .0002" to .001" maximum.
- Rotate tool if the application and set-up allow.
- Full Ball Radius Tools should be returned for relap after minimum wear.

#### UPC NO. PRODUCT NO. RADIUS

### Full Ball Radius Tools

66260300920 *	BR015A	.015
66260300921 *	BR020A	.020
66260300922 *	BR025A	.025
66260300923 *	BR030A	.030
66260300916 *	BR035A	.035
66260300917 *	BR040A	.040
66260300943 *	BR050A	.050

These tools can be relapped. Standard tools are in increments of .005".

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.



# Toolroom Tools

## Phono Point Tools ● ▲

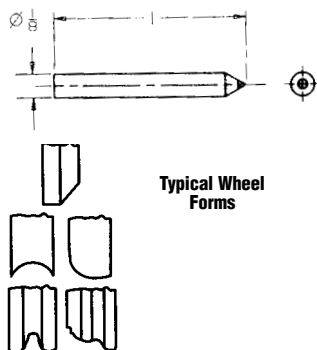
### FEATURES

- Sharp, long lasting diamond

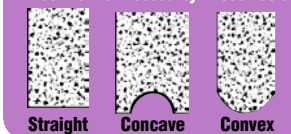
### BENEFITS

- Long tool life
- Fast truing and dressing action

For concave or convex dressing, usually on 8" diameter and smaller vitrified toolroom wheels.



### Wheel Forms Dressed by These Tools



UPC NO.	PRODUCT NO.	SHANK	ANGLE
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### Phono Point Tools

66260301040 *	PP08060	.080	60°
66260301042 *	PP08090	.080	90°
66260301043 *	PP12560	1/8	60°
66260301044 *	PP12575	1/8	75°
66260301076 *	PP12590	1/8	90°
66260300878 *	PP18760	3/16	60°
66260300879 *	PP18775	3/16	75°
66260300880 *	PP18790	3/16	90°
66260301046 *	PP25060	1/4	60°
66260301047 *	PP25075	1/4	75°
66260301048 *	PP25090	1/4	90°

These tool cannot be reset.

## Standard Thread Grinding Tools ● ▲

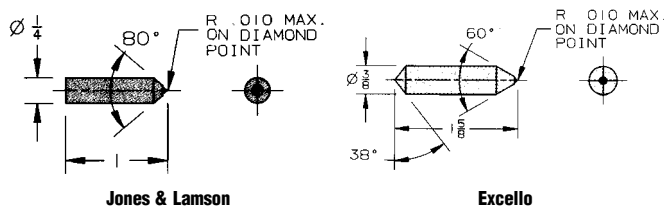
### FEATURES

- Sharp, long lasting diamond

### BENEFITS

- Long tool life
- Fast truing and dressing action

Used to accurately dress the grinding wheel to form the desired thread. Primarily used on the dressing mechanisms listed. The application and machine used will dictate the tool needed.



UPC NO.	PRODUCT NO.	MAXIMUM RADIUS ON POINT	OVERALL LENGTH
---------	-------------	-------------------------	----------------

### Jones & Lamson

66260301069 *	NX-5512	.010	2
66260301067 *	NX-57475	.010	1

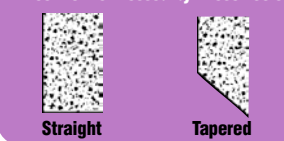
These tools can not be reset.

### Excello

66260301070 *	48-4105	.010	1-5/8
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This tool cannot be reset. Point radius is .010 - .015.

### Wheel Forms Dressed by These Tools



## Skate Sharpening Tool ● ▲

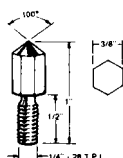
### FEATURES

- Tool fits CCM, TSM and Fleming Grey skate sharpening machines

### BENEFITS

- Long tool life
- Fast truing and dressing action

Ideal for profiling skate grinding wheels.



UPC NO.	PRODUCT NO.	HEAD DIAMETER	SHANK (THREADED)	OVERALL LENGTH
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### Skate Sharpening Tool

66260301974 *	SK-1	3/8 Hex	1/4 - 28	1
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This tool cannot be reset.

\* Made-to-order; call your Amplex representative for current lead-time and quantity guidelines.

+ Available as stock while supplies last; then available as made-to-order.



# Brake-Controlled Truing Devices

## AMP Model Truing Device

### FEATURES

- Adjustable speed, brake-controlled spindle

### BENEFITS

- Fast wheel truing
- Adaptable to most machines

*This small, compact unit with adjustable guard is the practical choice for both large and small shops requiring fast truing of superabrasive wheels with minimum loss of superabrasive. It can be mounted on almost any grinding machine using either a magnetic chuck or mounted with screws to a fixturing device. The spindle can be replaced without disturbing the mounting set-up, providing smoother operation.*

### Model #4597 Brake Controlled Truing Device

*The 4597 is engineered for heavier and more frequent truing applications. The adjustable speeds allow for varying conditions (between 1050 and 1500 SFPM). It comes complete with a reusable case, "True to Form, Dress to Cut" training video, two 3" 38A60-M8VBE vitrified wheels, Truing Device Tips book and a dressing stick. It can be rebuilt using the 4597T Repair Kit.*

*Worn #4597 Brake Controlled Truing Devices (UPC 66260301384) in need of reconditioning (beyond new shoes and springs) may be returned to be rebuilt. Contact Amplex Customer Service for return instructions and quote.*

### 4597 Kit Repair Kit

*You can repair your truing device with these kits, consisting of three brake shoes, three springs and three screws.*

UPC NO.	PRODUCT NO.	DESCRIPTION
<b>AMP Model</b>		
66260301384	Model #4597	Brake-Controlled Mechanism
66260303954	#4597-W	Replacement Wheel (one 3" wheel included with unit)
66260305414	Model #4597-Kit	Repair Kit



## Thrifline Model Truing Device

### FEATURES

- Single speed, brake-controlled spindle

### BENEFITS

- Lower cost
- No adjusting required

*For surface grinders, this universal superabrasive wheel truing device is a solid choice for occasional, non-production truing of diamond and CBN wheels with a minimum of superabrasive loss. Use for grinding wheel sizes up to 18" x 3".*

### Model 4597-T Brake Controlled Truing Device

*This model is ideal for light duty use. The pre-set brake speed requires no adjusting. This model includes one 3" 38A60-M8VBE vitrified wheel and can be repaired using the 4597RK Repair Kit.*

### 4597-T Kit Repair Kit

*You can repair your truing device with these kits, consisting of three brake shoes, three springs and three screws.*

UPC NO.	PRODUCT NO.	DESCRIPTION
<b>Thrifline Model</b>		
66260304378	Model #4597-T	Single Speed, Brake-Controlled Mechanism
66260303954	#4597-W	Replacement Wheel (one 3" wheel included with unit)
66260305413	Model #4597-T Kit	Repair Kit



## techtips

- Prior to truing the wheel, run a wax crayon over the wheel face. Important: do NOT use any liquid-based ink on superabrasive wheels.
- Any crayon left on the wheel face after truing will reveal untrued areas.
- Indicate the superabrasive wheel runout before starting... usually within .001" to .002", to minimize wheel loss.
- Mount the device spindle parallel to the wheel spindle to ensure proper straight face truing.
- For cup shaped wheels, the device spindle will be mounted perpendicular to the wheel spindle.
- Always use the Brake Controlled Truing Device dry.
- Bring the diamond/CBN wheel and the truing wheel together until they almost touch.
- Start the diamond/CBN wheel to normal speed; spin the truing wheel in the same direction at point of contact.
- Bring the two wheels together until they touch.
- Make sure the truing wheel is spinning at time of contact.
- Traverse the wheel back and forth at 30 to 60 inches/minute.
- Downfeed .0005" to .001" at the end of each traverse.
- At the end of truing, the diamond/CBN wheel should be smooth and in truth.
- Apply a dressing stick to sharpen the wheel.



It is the user's responsibility to refer to and comply with ANSI B7.1

### TARGET MARKET SYMBOLS:



# Diamond Compound

## Diamond Compound ● ▲

### FEATURES

- Diamond powders uniformly distributed in a liquid vehicle
- Easy to use plastic syringe

### BENEFITS

- Aggressive polishing
- Consistent part quality
- Quick clean-up

*Performs on all materials – hard and soft. Excellent for mold, die and tool polishing, polishing to final tolerance of ceramic parts, initial charging of lapping plates and discs, and other processes that require mirror finish and close tolerance performance.*

*Use oil soluble when solvent is used for clean-up, and water soluble when soap/water is used for clean-up .*



UPC NO.	PRODUCT NO.	MICRON GRADE	COLOR
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### Diamond Compound – Water Soluble

#### 5 Gram Syringes

66260300362	5PS1/4WSSTD	1/4	Ultra Fine	Gray
66260300417	5PS1/2WSSTD	1/2	Ultra Fine	Lt. Gray
66260300368	5PS1WSSTD	1	Ultra Fine	Ivory
66260300667	5PS3WSSTD	3	Super Fine	Yellow
66260300372	5PS6WSSTD	6	Super Fine	Orange
66260300375	5PS9WSSTD	9	Super Fine	Green
66260300376	5PS12WSSTD	12	Super Fine	Aqua
66260300379	5PS15WSSTD	15	Fine	Blue
66260300381	5PS20WSSTD	20	Fine	Auburn
66260300383	5PS30WSSTD	30	Fine	Red
66260300384	5PS45WSSTD	45	Fine	Brown
66260300388	5PS60WSSTD	60	Fine	Purple
66260300389	5PS90WSSTD	90	Fine	Black

#### 18 Gram Syringes

66260300392	18PS1/4WSSTD	1/4	Ultra Fine	Gray
66260300394	18PS1/2WSSTD	1/2	Ultra Fine	Lt. Gray
66260300396	18PS1WSSTD	1	Ultra Fine	Ivory
66260300398	18PS3WSSTD	3	Super Fine	Yellow
66260300400	18PS6WSSTD	6	Super Fine	Orange
66260300402	18PS9WSSTD	9	Super Fine	Green
66260300404*	18PS12WSSTD	12	Super Fine	Aqua
66260300406	18PS15WSSTD	15	Fine	Blue
66260300408	18PS20WSSTD	20	Fine	Auburn
66260300410	18PS30WSSTD	30	Fine	Red
66260300412	18PS45WSSTD	45	Fine	Brown
66260300414	18PS60WSSTD	60	Fine	Purple
66260300416	18PS90WSSTD	90	Fine	Black

\* Non-stock. Call your Amplex representative for current lead-times. Concentration for all sizes and grades is Standard.

UPC NO.	PRODUCT NO.	MICRON GRADE	COLOR
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### Diamond Compound – Oil Soluble

#### 5 Gram Syringes

66260300361*	5PS1/4OSSTD	1/4	Ultra Fine	Gray
66260300363	5PS1/2OSSTD	1/2	Ultra Fine	Lt. Gray
66260300369	5PS1OSSTD	1	Ultra Fine	Ivory
66260300370	5PS3OSSTD	3	Super Fine	Yellow
66260300665	5PS6OSSTD	6	Super Fine	Orange
66260300666	5PS9OSSTD	9	Super Fine	Green
66260300377*	5PS12OSSTD	12	Super Fine	Aqua
66260300662	5PS15OSSTD	15	Fine	Blue
66260300380*	5PS20OSSTD	20	Fine	Auburn
66260300382	5PS30OSSTD	30	Fine	Red
66260300664	5PS45OSSTD	45	Fine	Brown
66260300386	5PS60OSSTD	60	Fine	Purple
66260300390	5PS90OSSTD	90	Fine	Black

#### 18 Gram Syringes

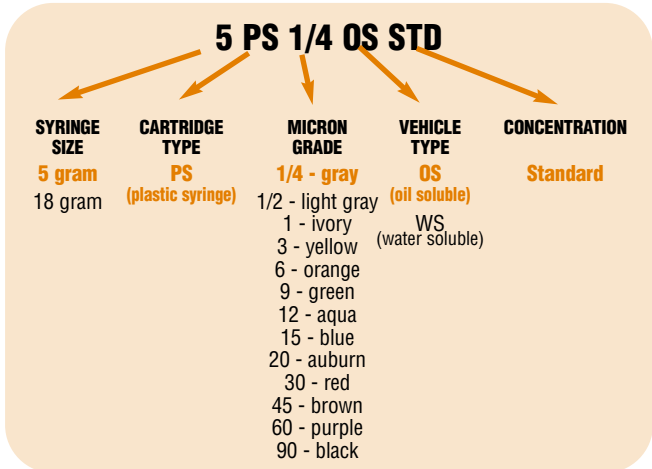
66260300391	18PS1/4OSSTD	1/4	Ultra Fine	Gray
66260300393*	18PS1/2OSSTD	1/2	Ultra Fine	Lt. Gray
66260300660	18PS1OSSTD	1	Ultra Fine	Ivory
66260300661	18PS3OSSTD	3	Super Fine	Yellow
66260300399	18PS6OSSTD	6	Super Fine	Orange
66260300401	18PS9OSSTD	9	Super Fine	Green
66260300403*	18PS12OSSTD	12	Super Fine	Aqua
66260300405	18PS15OSSTD	15	Fine	Blue
66260300407	18PS20OSSTD	20	Fine	Auburn
66260300409	18PS30OSSTD	30	Fine	Red
66260300411	18PS45OSSTD	45	Fine	Brown
66260300413	18PS60OSSTD	60	Fine	Purple
66260300415	18PS90OSSTD	90	Fine	Black

## techtips

### Diamond Compound Application Guide

APPLICATION	MICRON GRADE	MICRON RANGE	MESH SIZE EQUIVALENT	COLOR	CONC.
<b>ULTRA FINE</b> Applying finest finishes on metals and ceramics	1/4	(0-1/2)	100,000	Gray	Std.
	1/2	(0-1)	60,000	Lt. Gray	Std.
	1	(0-2)	14,000	Ivory	Std.
<b>SUPER FINE</b> Final finishing for dies, molds, seals, most applications (RMS 4-12)	3	(2-4)	8,000	Yellow	Std.
	6	(4-8)	3,000	Orange	Std.
	9	(8-12)	1,800	Green	Std.
	12	(9-15)	1,500	Aqua	Std.
<b>FINE FINISH</b> Preparatory lapping (RMS 12-20)	15	(12-22)	1,200	Blue	Std.
	20	(15-25)	800	Auburn	Std.
	30	(22-36)	600	Red	Std.
	45	(36-45)	325	Brown	Std.
	60	(54-80)	230	Purple	Std.
	90	(80-100)	170	Black	Std.

### Marking System



# Today's Solutions, Tomorrow's Standards

## ***new!* Amplex Express Made-to-Order Service for Resinoid-Bond Products**

***50,000+ custom-made, resinoid bond Diamond and CBN products with 2 week lead-times and competitive prices.***

If you don't find your resinoid bond specification, shape, or size in our stock offering, we can create a wheel specifically for your application quickly through our Amplex Express service.

- 25 different types; many sizes
- Many diamond and CBN resinoid-bond specifications
- Grits from 80 to 400
- Concentration and abrasive depth choices
- Competitive prices - even when compared to stock items
- Only two week lead-times from receipt of your order to factory shipment for 12" and less diameter wheels
- Standard made-to-order leadtimes for 14" and greater wheels

Check our extensive Amplex stock line first. If you do not find your resin wheel there, see pages 25-41 for complete Amplex Express details.



## ***techtips***

***new!* See the many new Tech Tips and Troubleshooting Guides in this catalog!  
And, your local authorized Amplex distributor and our Amplex Customer Service**

Phone: 508-368-8567 or 800-962-6191; Fax 1-800-242-1468 – are always ready to help you with:

- A review of your application
- A Diamond or CBN specification recommendation and quotation
- Application troubleshooting
- Superabrasive grinding fundamentals such as truing and dressing tips to maximize your wheel's performance and productivity

### ***Saint-Gobain Abrasives Trademarks***

Amplex®  
AMP™

Premier Red™  
SG®

SGT™  
Speed-Lok®

Thrifline™  
and others

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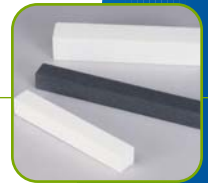
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