



PROUDLY MADE  
IN THE U.S.A.



# STANDARD PARTS CATALOG

Clamps & Clips



KICKHAEFER MANUFACTURING COMPANY



## SETTING THE INDUSTRY STANDARD

KMC's extensive range of clamps and clips literally set the industry standard. Developed over many years to meet the needs of thousands of users, our standard products stand today as, perhaps, the most specified parts of their kind for use in safely securing wire, cable, tubes and pipes.

Our clamps and clips are ideal for OEM applications in agricultural, automotive, marine, outdoor power equipment, recreational vehicle, appliance and other industries.

It is our commitment to deliver the highest quality standard components that will perform under pressure and withstand the test of time.



# THE ORIGINAL CLIPS & CLAMPS COMPANY

We are KMC. We're the original clips and clamps company. Our extensive range of standard products is anything but standard. The sheer quantity of parts and the quality of each product has set the industry standard.

Our customers get high quality components at fair prices. Over 100 years old. Made in the USA. All parts RoHS and REACH compliant. KMC backs all of its standard components with exceptional in-house engineering, manufacturing and customer service.

KMC has developed an environment where creativity, innovation, employee involvement and customer interaction flourish. Our 300 dedicated team members, working within nearly 250,000 square feet of manufacturing space in our four Midwest locations, are ready to serve you.

Trust the original clips and clamps company with your standard component needs. KMC. Our standard is quality.

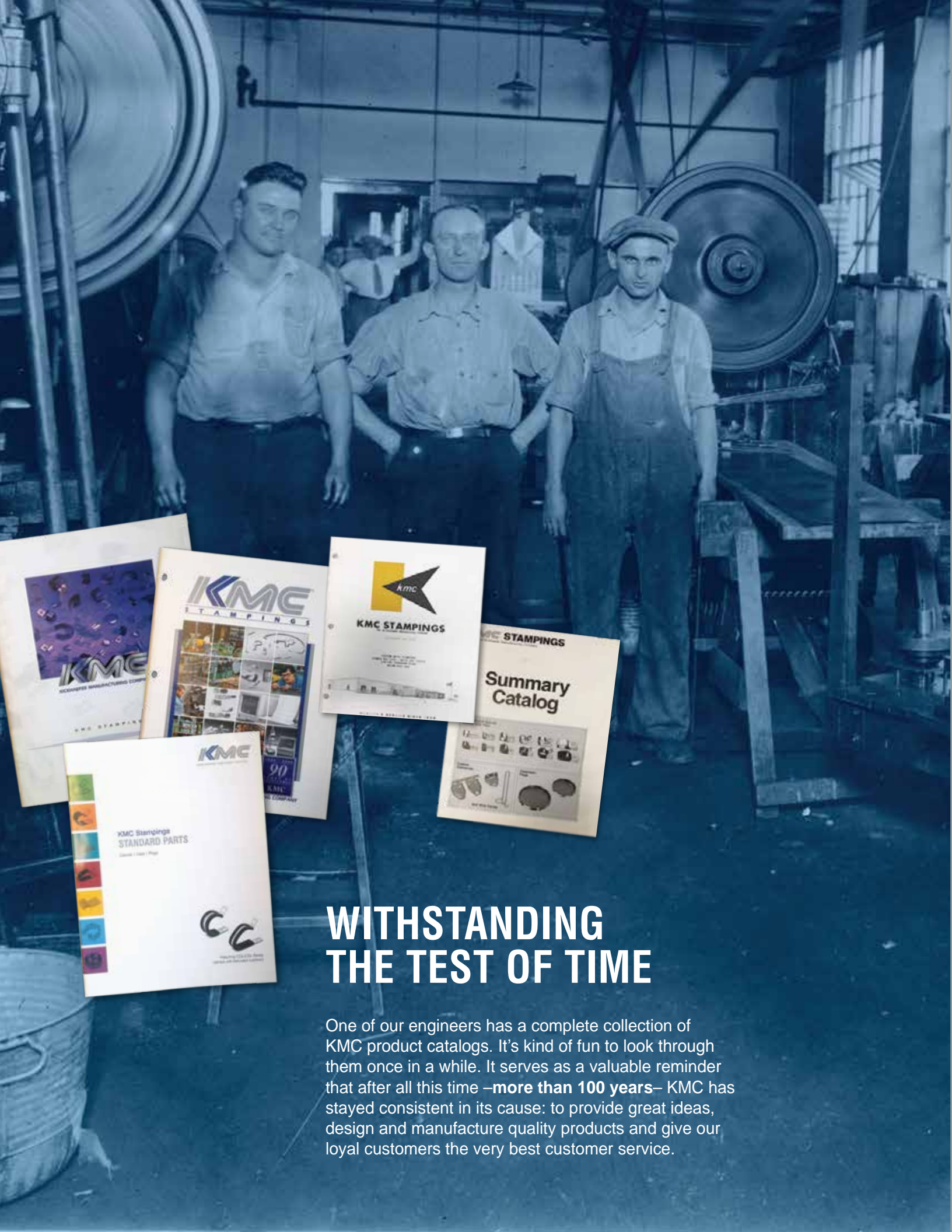


## *About This Catalog*

Our standard parts catalog is designed to assist you in finding the standard parts you need. An easy-to-follow table of contents, color-coded product sections and easy-to-read specification charts should make the process simpler for you. The 'How to Use This Catalog' page has been added to help determine the part type and part number needed for ordering.

If you need help, just give us a call at 262.377.5030 and our friendly customer service team will be glad to assist you.





# WITHSTANDING THE TEST OF TIME

One of our engineers has a complete collection of KMC product catalogs. It's kind of fun to look through them once in a while. It serves as a valuable reminder that after all this time –**more than 100 years**– KMC has stayed consistent in its cause: to provide great ideas, design and manufacture quality products and give our loyal customers the very best customer service.

# KMC STANDARD PRODUCTS SELECTION GUIDE



## Light Duty Clamps

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## Medium Duty Clamps

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## Heavy Duty Clamps

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## Double Tube Clamps

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## Tube, Wiring & Grate Clips

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## Control Cable Clips

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## Expansion Plugs

CARBON STEEL EXPANSION PLUGS	p. 39
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\*Products available both plain and coated      ◇ Products available cushioned

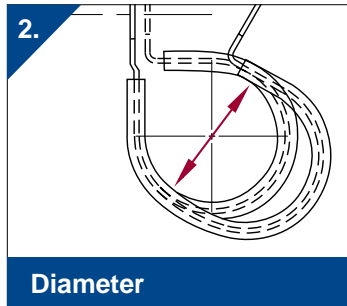
# HOW TO USE THIS CATALOG



**Style/Type**

## 1. Determine Part Type

- Light-duty Clamps
- Medium-duty Clamps
- Heavy-duty Clamps
- Double Tube Clamps
- Tube, Wiring & Grate Clips
- Control Cable Clamps

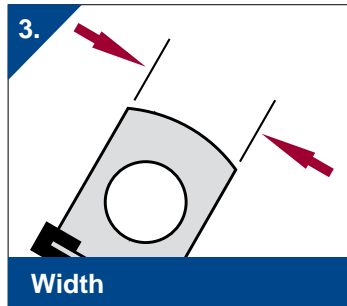


**Diameter**

## 2. Determine Clamping Diameter

### Examples

CC-**0509** = .312" clamp diameter  
 CCV-**0509** = .250" clamp diameter

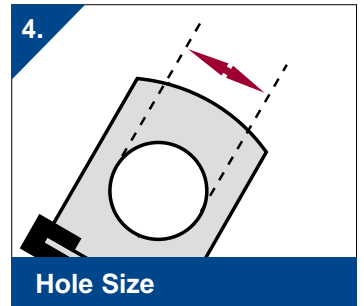


**Width**

## 3. Determine Clamping Width

### Examples

CC-**0509** = .625" wide



**Hole Size**

## 4. Determine Mounting Bolt Size

### Examples

CC-**0509** = .281" mounting hole diameter



**Finish/Plating**

## 5. Determine Finish/Plating

- Z1 - Hot-dipped Zinc, Galvanized
- Z2 - Zinc, Clear



**Clamp Material**

## 6. Determine Clamp Material

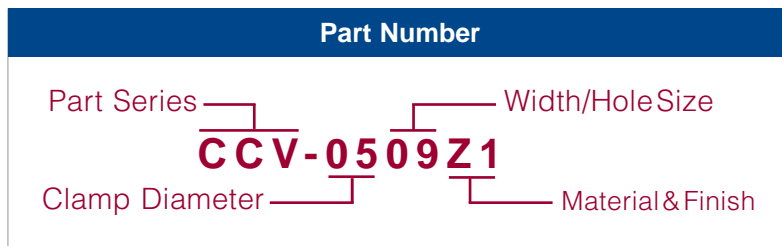
- 1010 Steel
- 304 Stainless Steel
- 5052 Aluminum



**Cushion Material**

## 7. Determine Cushion Material

- Vinyl
- EPDM
- Silicone




# PART NUMBERING SYSTEM


The numbering system used for all KMC parts consists of an alpha prefix, which indicates the type of part, and a numeric suffix that defines the size. Together, they fully identify the part.

Throughout this catalog, a “V” in the prefix indicates that the part is cushioned with vinyl plastisol and reduces the indicated clamping diameter by 1/16”.


## Clips & Clamps with Bolt Mounting Holes

PART	PREFIX	EXPLANATION OF PREFIX
	<b>CF</b>	FLARED Edge Clip, Single Tube, Three Bolt Holes (One Slotted)
	<b>CW</b>	WIRING Clip, Single Tube, Two Bolt Holes
	<b>CO</b>	OPEN Clip, Single Tube, Three Bolt Holes (One Slotted)
	<b>COL</b>	Extruded EPDM Cushion, Single Tube, Three Bolt Holes (One Slotted)
	<b>CC</b>	CLOSED Clip, Single Tube, Two Bolt Holes
	<b>CD</b>	DOUBLE Clamp, Two Tubes, Three Bolt Holes (One Slotted)
	<b>CDL</b>	Extruded EPDM Cushion, Two Tubes, Three Bolt Holes (One Slotted)
	<b>CM</b>	DOUBLE Clamp, Two Tubes, One Center-Mount Bolt Hole
	<b>CH</b>	HALF Clip, Single Tube, One Bolt Hole
	<b>CJ</b>	“J” Clip, Single Tube, One Bolt Hole
	<b>SC</b>	SADDLE CLIP, For Securing or Holding Grating to Supports
	<b>CE</b>	ENGINE MOUNT, For Bowden Wire

## Clips & Clamps without Bolt Holes

	<b>FC</b>	FRAME Clip, Push-On Spring Clips for Holding Wires on Structural Shapes
	<b>SW</b>	SHIELDED (Bowden) Wire Clip, Side Mount
	<b>MW</b>	MULTIPLE (Shielded) Wire Clip, Side Mount
	<b>BW</b>	BOWDEN (Shielded) Wire Clip, Center Mount

## Plugs

	<b>PC</b>	PLUG, Cup Type, Concave Bottom
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# FLARED EDGE CLAMPS Closed Type – Furnished Open

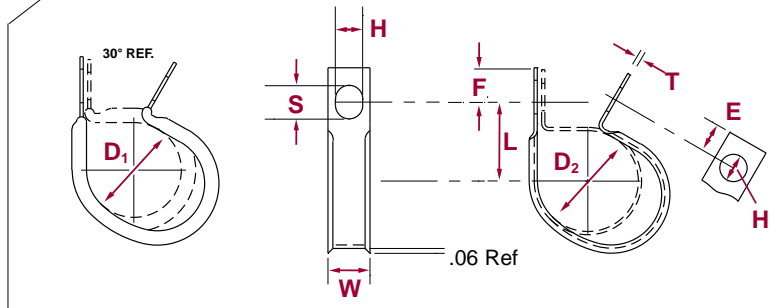
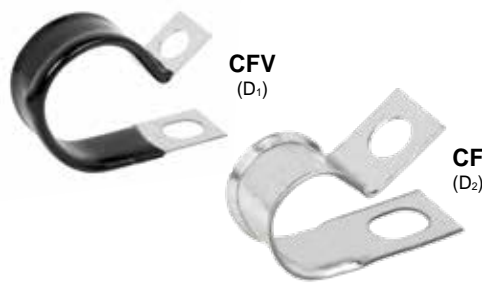
**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** Black Vinyl, 1/32" Thick

Z2 - .0002 min Zinc, Clear

**CFV-CF:** Parts Have One Round and One Slotted Hole



Light Duty Clamps

D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	S	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Slot Center To End	Slot Length	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.015	±.020	±.002
		.187	CF-0309	.468	.500	.281	.250	.296	.375	.025
			CF-0311	.500	.562	.343	.281	.328	.437	.025
			CF-0313	.562	.625	.406	.312	.359	.500	.025
.187	CFV-0409	.250	CF-0409	.500	.500	.281	.250	.296	.375	.025
	CFV-0411		CF-0411	.531	.562	.343	.281	.328	.437	.025
	CFV-0413		CF-0413	.593	.625	.406	.312	.359	.500	.025
.250	CFV-0509	.312	CF-0509	.531	.500	.281	.250	.296	.375	.025
	CFV-0511		CF-0511	.562	.562	.343	.281	.328	.437	.025
	CFV-0513		CF-0513	.625	.625	.406	.312	.359	.500	.025
.312	CFV-0609	.375	CF-0609	.562	.500	.281	.250	.296	.375	.025
	CFV-0611		CF-0611	.594	.562	.343	.281	.328	.437	.025
	CFV-0613		CF-0613	.656	.625	.406	.312	.359	.500	.025
.375	CFV-0709	.437	CF-0709	.593	.500	.281	.250	.296	.375	.025
	CFV-0711		CF-0711	.625	.562	.343	.281	.328	.437	.025
	CFV-0713		CF-0713	.687	.625	.406	.312	.359	.500	.025
.437	CFV-0809	.500	CF-0809	.625	.500	.281	.250	.296	.375	.025
	CFV-0811		CF-0811	.656	.562	.343	.281	.328	.437	.025
	CFV-0813		CF-0813	.718	.625	.406	.312	.359	.500	.025
.500	CFV-0909	.562	CF-0909	.656	.500	.281	.250	.296	.375	.025
	CFV-0911		CF-0911	.688	.562	.343	.281	.328	.437	.025
	CFV-0913		CF-0913	.750	.625	.406	.312	.359	.500	.025
.562	CFV-1009	.625	CF-1009	.687	.500	.281	.250	.296	.375	.025
	CFV-1011		CF-1011	.719	.562	.343	.281	.328	.437	.025
	CFV-1013		CF-1013	.781	.625	.406	.312	.359	.500	.025
.625	CFV-1109	.687	CF-1109	.718	.500	.281	.250	.296	.375	.025
	CFV-1111		CF-1111	.750	.562	.343	.281	.328	.437	.025
	CFV-1113		CF-1113	.812	.625	.406	.312	.359	.500	.025
.687	CFV-1209	.750	CF-1209	.750	.500	.281	.250	.296	.375	.025
	CFV-1211		CF-1211	.781	.562	.343	.281	.328	.437	.025
	CFV-1213		CF-1213	.843	.625	.406	.312	.359	.500	.025
.750	CFV-1309	.812	CF-1309	.781	.500	.281	.250	.296	.375	.025
	CFV-1311		CF-1311	.812	.562	.343	.281	.328	.437	.025
	CFV-1313		CF-1313	.875	.625	.406	.312	.359	.500	.025
.812	CFV-1409	.875	CF-1409	.812	.500	.281	.250	.296	.375	.025
	CFV-1411		CF-1411	.844	.562	.343	.281	.328	.437	.025
	CFV-1413		CF-1413	.906	.625	.406	.312	.359	.500	.025
.875	CFV-1509	.937	CF-1509	.843	.500	.281	.250	.296	.375	.025
	CFV-1511		CF-1511	.875	.562	.343	.281	.328	.437	.025
	CFV-1513		CF-1513	.937	.625	.406	.312	.359	.500	.025
.937	CFV-1609	1.000	CF-1609	.875	.500	.281	.250	.296	.375	.025
	CFV-1611		CF-1611	.906	.562	.343	.281	.328	.437	.025
	CFV-1613		CF-1613	.968	.625	.406	.312	.359	.500	.025
1.000	CFV-1709	1.062	CF-1709	.906	.500	.281	.250	.296	.375	.025
	CFV-1711		CF-1711	.938	.562	.343	.281	.328	.437	.025
	CFV-1713		CF-1713	1.000	.625	.406	.312	.359	.500	.025

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.



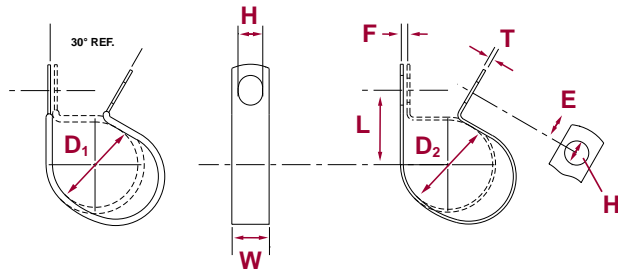
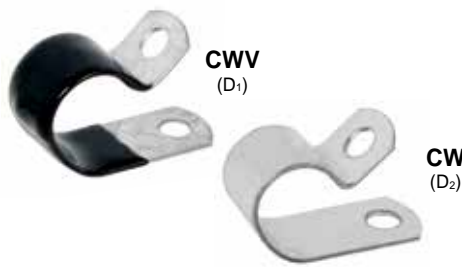
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**CWV-CW:** Parts Have Two Round Holes



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002
		.125	CW-0205*	.297	.375	.172	.188	.062	.032
			CW-0207	.375	.500	.203	.218	.062	.032
		.187	CW-0305*	.328	.375	.172	.187	.062	.032
			CW-0307	.375	.500	.203	.218	.062	.032
.187	CWV-0405*	.250	CW-0405*	.344	.375	.172	.187	.062	.032
	CWV-0407		CW-0407	.406	.500	.203	.218	.062	.032
.250	CWV-0505*	.312	CW-0505*	.375	.375	.172	.187	.062	.032
	CWV-0507		CW-0507	.437	.500	.203	.218	.062	.032
.312	CWV-0605*	.375	CW-0605*	.406	.375	.172	.187	.062	.032
	CWV-0607		CW-0607	.468	.500	.203	.218	.062	.032
.375	CWV-0705*	.437	CW-0705*	.437	.375	.172	.187	.062	.032
	CWV-0707		CW-0707	.500	.500	.203	.218	.062	.032
.437	CWV-0805*	.500	CW-0805*	.468	.375	.172	.187	.062	.032
	CWV-0807		CW-0807	.531	.500	.203	.218	.062	.032
.500	CWV-0905*	.562	CW-0905*	.500	.375	.172	.187	.062	.032
	CWV-0907		CW-0907	.562	.500	.203	.218	.062	.032
.562	CWV-1005*	.625	CW-1005*	.531	.375	.172	.187	.062	.032
	CWV-1007		CW-1007	.593	.500	.203	.218	.062	.032
.625	CWV-1105*	.687	CW-1105*	.562	.375	.172	.187	.062	.032
	CWV-1107		CW-1107	.625	.500	.203	.218	.062	.032
.687	CWV-1207	.750	CW-1207	.656	.500	.203	.218	.062	.032
.750	CWV-1307	.812	CW-1307	.687	.500	.203	.218	.062	.032
.812	CWV-1407	.875	CW-1407	.718	.500	.203	.218	.062	.032
.875	CWV-1507	.937	CW-1507	.750	.500	.203	.218	.062	.032
.937	CWV-1607	1.000	CW-1607	.781	.500	.203	.218	.062	.032
1.000	CWV-1707	1.062	CW-1707	.812	.500	.203	.218	.062	.032

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.  
**NOTE:** Part numbers shown with an asterisk (\*) are only available in Z2.

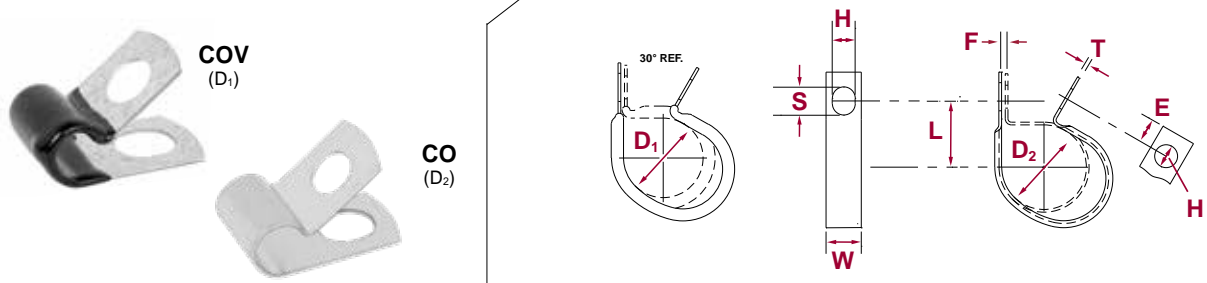
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
		.125	CO-0209	.468	.500	.281	.312	.031	.032	.375
			CO-0211	.531	.625	.343	.375	.031	.032	.437
			CO-0213	.593	.750	.406	.437	.031	.032	.500
		.187	CO-0309	.468	.500	.281	.312	.031	.032	.375
			CO-0311	.531	.625	.343	.375	.031	.032	.437
			CO-0313	.593	.750	.406	.437	.031	.032	.500
.187	COV-0409	.250	CO-0409	.500	.500	.281	.312	.031	.032	.375
	COV-0411		CO-0411	.562	.625	.343	.375	.031	.032	.437
	COV-0413		CO-0413	.625	.750	.406	.437	.031	.032	.500
	COV-0415		CO-0415	.687	.750	.468	.500	.031	.032	.562
.250	COV-0509	.312	CO-0509	.531	.500	.281	.312	.031	.032	.375
	COV-0511		CO-0511	.593	.625	.343	.375	.031	.032	.437
	COV-0513		CO-0513	.656	.750	.406	.437	.031	.032	.500
	COV-0515		CO-0515	.718	.750	.468	.500	.031	.032	.562
	COV-0517		CO-0517	.781	.875	.531	.562	.031	.032	.625
.312	COV-0609	.375	CO-0609	.562	.500	.281	.312	.031	.032	.375
	COV-0611		CO-0611	.625	.625	.343	.375	.031	.032	.437
	COV-0613		CO-0613	.687	.750	.406	.437	.031	.032	.500
	COV-0615		CO-0615	.750	.750	.468	.500	.031	.032	.562
	COV-0617		CO-0617	.812	.875	.531	.562	.031	.032	.625
.375	COV-0709	.437	CO-0709	.593	.500	.281	.312	.062	.032	.375
	COV-0711		CO-0711	.656	.625	.343	.375	.062	.032	.437
	COV-0713		CO-0713	.718	.750	.406	.437	.062	.032	.500
	COV-0715		CO-0715	.781	.875	.468	.500	.062	.032	.562
	COV-0717		CO-0717	.843	.875	.531	.562	.062	.032	.625
.437	COV-0809	.500	CO-0809	.625	.500	.281	.312	.062	.048	.375
	COV-0811		CO-0811	.687	.625	.343	.375	.062	.048	.437
	COV-0813		CO-0813	.750	.750	.406	.437	.062	.048	.500
	COV-0815		CO-0815	.812	.875	.468	.500	.062	.048	.562
	COV-0817		CO-0817	.875	1.000	.531	.562	.062	.048	.625
.500	COV-0909	.562	CO-0909	.656	.500	.281	.312	.062	.048	.375
	COV-0911		CO-0911	.718	.625	.343	.375	.062	.048	.437
	COV-0913		CO-0913	.781	.750	.406	.437	.062	.048	.500
	COV-0915		CO-0915	.843	.875	.468	.500	.062	.048	.562
	COV-0917		CO-0917	.906	1.000	.531	.562	.062	.048	.625
.562	COV-1009	.625	CO-1009	.687	.500	.281	.312	.062	.048	.375
	COV-1011		CO-1011	.750	.625	.343	.375	.062	.048	.437
	COV-1013		CO-1013	.812	.750	.406	.437	.062	.048	.500
	COV-1015		CO-1015	.875	.875	.468	.500	.062	.048	.562
	COV-1017		CO-1017	.937	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

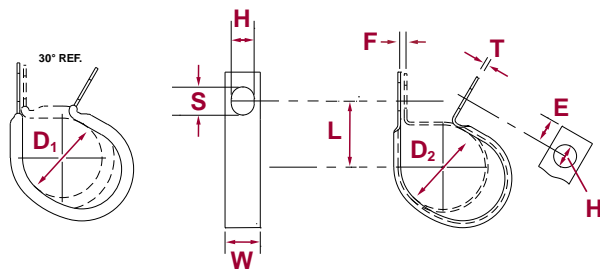
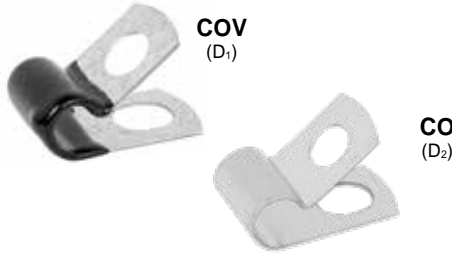
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**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
.625	COV-1109	.687	CO-1109	.718	.500	.281	.312	.062	.048	.375
	COV-1111		CO-1111	.781	.625	.343	.375	.062	.048	.437
	COV-1113		CO-1113	.843	.750	.406	.437	.062	.048	.500
	COV-1115		CO-1115	.906	.875	.468	.500	.062	.048	.562
	COV-1117		CO-1117	.968	1.000	.531	.562	.062	.048	.625
.687	COV-1209	.750	CO-1209	.750	.500	.281	.312	.062	.048	.375
	COV-1211		CO-1211	.812	.625	.343	.375	.062	.048	.437
	COV-1213		CO-1213	.875	.750	.406	.437	.062	.048	.500
	COV-1215		CO-1215	.937	.875	.468	.500	.062	.048	.562
	COV-1217		CO-1217	1.000	1.000	.531	.562	.062	.048	.625
.750	COV-1309	.812	CO-1309	.781	.500	.281	.312	.062	.048	.375
	COV-1311		CO-1311	.843	.625	.343	.375	.062	.048	.437
	COV-1313		CO-1313	.906	.750	.406	.437	.062	.048	.500
	COV-1315		CO-1315	.968	.875	.468	.500	.062	.048	.562
	COV-1317		CO-1317	1.031	1.000	.531	.562	.062	.048	.625
.812	COV-1409	.875	CO-1409	.812	.500	.281	.312	.062	.048	.375
	COV-1411		CO-1411	.875	.625	.343	.375	.062	.048	.437
	COV-1413		CO-1413	.937	.750	.406	.437	.062	.048	.500
	COV-1415		CO-1415	1.000	.875	.468	.500	.062	.048	.562
	COV-1417		CO-1417	1.062	1.000	.531	.562	.062	.048	.625
.875	COV-1509	.937	CO-1509	.843	.500	.281	.312	.062	.048	.375
	COV-1511		CO-1511	.906	.625	.343	.375	.062	.048	.437
	COV-1513		CO-1513	.968	.750	.406	.437	.062	.048	.500
	COV-1515		CO-1515	1.031	.875	.468	.500	.062	.048	.562
	COV-1517		CO-1517	1.093	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

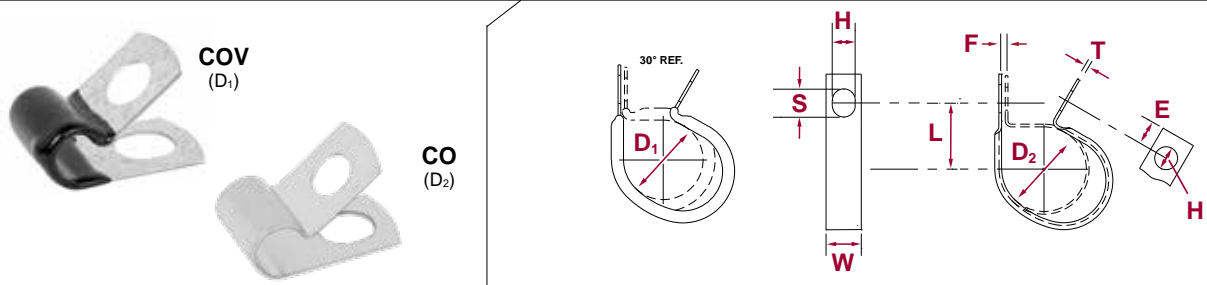
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
.937	COV-1609	1.000	CO-1609	.875	.500	.281	.312	.062	.048	.375
	COV-1611		CO-1611	.937	.625	.343	.375	.062	.048	.437
	COV-1613		CO-1613	1.000	.750	.406	.437	.062	.048	.500
	COV-1615		CO-1615	1.062	.875	.468	.500	.062	.048	.562
	COV-1617		CO-1617	1.125	1.000	.531	.562	.062	.048	.625
1.000	COV-1709	1.062	CO-1709	.906	.500	.281	.312	.062	.048	.375
	COV-1711		CO-1711	.968	.625	.343	.375	.062	.048	.437
	COV-1713		CO-1713	1.031	.750	.406	.437	.062	.048	.500
	COV-1715		CO-1715	1.093	.875	.468	.500	.062	.048	.562
	COV-1717		CO-1717	1.156	1.000	.531	.562	.062	.048	.625
1.062	COV-1809	1.125	CO-1809	.937	.500	.281	.312	.062	.048	.375
	COV-1811		CO-1811	1.000	.625	.343	.375	.062	.048	.437
	COV-1813		CO-1813	1.062	.750	.406	.437	.062	.048	.500
	COV-1815		CO-1815	1.125	.875	.468	.500	.062	.048	.562
	COV-1817		CO-1817	1.187	1.000	.531	.562	.062	.048	.625
1.125	COV-1909	1.187	CO-1909	.968	.500	.281	.312	.062	.048	.375
	COV-1911		CO-1911	1.031	.625	.343	.375	.062	.048	.437
	COV-1913		CO-1913	1.093	.750	.406	.437	.062	.048	.500
	COV-1915		CO-1915	1.156	.875	.468	.500	.062	.048	.562
	COV-1917		CO-1917	1.218	1.000	.531	.562	.062	.048	.625
1.187	COV-2009	1.250	CO-2009	1.000	.500	.281	.312	.062	.048	.375
	COV-2011		CO-2011	1.062	.625	.343	.375	.062	.048	.437
	COV-2013		CO-2013	1.125	.750	.406	.437	.062	.048	.500
	COV-2015		CO-2015	1.187	.875	.468	.500	.062	.048	.562
	COV-2017		CO-2017	1.250	1.000	.531	.562	.062	.048	.625
1.250	COV-2109	1.312	CO-2109	1.031	.500	.281	.312	.062	.048	.375
	COV-2111		CO-2111	1.093	.625	.343	.375	.062	.048	.437
	COV-2113		CO-2113	1.156	.750	.406	.437	.062	.048	.500
	COV-2115		CO-2115	1.218	.875	.468	.500	.062	.048	.562
	COV-2117		CO-2117	1.281	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.



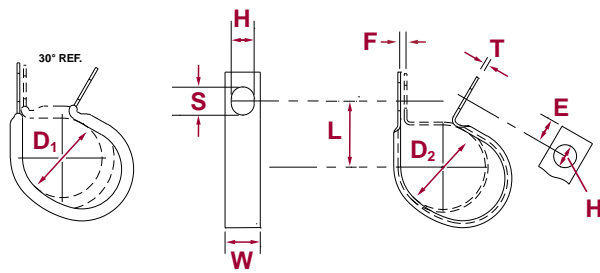
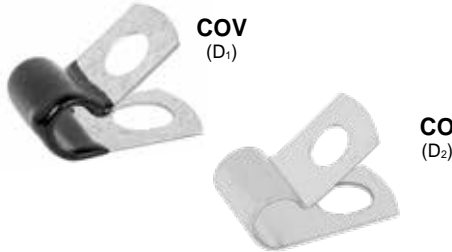
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
1.312	COV-2209	1.375	CO-2209	1.062	.500	.281	.312	.062	.048	.375
	COV-2211		CO-2211	1.125	.625	.343	.375	.062	.048	.437
	COV-2213		CO-2213	1.187	.750	.406	.437	.062	.048	.500
	COV-2215		CO-2215	1.250	.875	.468	.500	.062	.048	.562
	COV-2217		CO-2217	1.312	1.000	.531	.562	.062	.048	.625
1.375	COV-2309	1.437	CO-2309	1.093	.500	.281	.312	.062	.048	.375
	COV-2311		CO-2311	1.156	.625	.343	.375	.062	.048	.437
	COV-2313		CO-2313	1.218	.750	.406	.437	.062	.048	.500
	COV-2315		CO-2315	1.281	.875	.468	.500	.062	.048	.562
	COV-2317		CO-2317	1.343	1.000	.531	.562	.062	.048	.625
1.437	COV-2409	1.500	CO-2409	1.125	.500	.281	.312	.062	.048	.375
	COV-2411		CO-2411	1.187	.625	.343	.375	.062	.048	.437
	COV-2413		CO-2413	1.250	.750	.406	.437	.062	.048	.500
	COV-2415		CO-2415	1.312	.875	.468	.500	.062	.048	.562
	COV-2417		CO-2417	1.375	1.000	.531	.562	.062	.048	.625
1.500	COV-2509	1.562	CO-2509	1.156	.500	.281	.312	.062	.048	.375
	COV-2511		CO-2511	1.218	.625	.343	.375	.062	.048	.437
	COV-2513		CO-2513	1.281	.750	.406	.437	.062	.048	.500
	COV-2515		CO-2515	1.343	.875	.468	.500	.062	.048	.562
	COV-2517		CO-2517	1.406	1.000	.531	.562	.062	.048	.625
1.562	COV-2609	1.625	CO-2609	1.187	.500	.281	.312	.062	.048	.375
	COV-2611		CO-2611	1.250	.625	.343	.375	.062	.048	.437
	COV-2613		CO-2613	1.312	.750	.406	.437	.062	.048	.500
	COV-2615		CO-2615	1.375	.875	.468	.500	.062	.048	.562
	COV-2617		CO-2617	1.437	1.000	.531	.562	.062	.048	.625
1.625	COV-2709	1.687	CO-2709	1.218	.500	.281	.312	.062	.048	.375
	COV-2711		CO-2711	1.281	.625	.343	.375	.062	.048	.437
	COV-2713		CO-2713	1.343	.750	.406	.437	.062	.048	.500
	COV-2715		CO-2715	1.406	.875	.468	.500	.062	.048	.562
	COV-2717		CO-2717	1.468	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

Medium Duty Clamps

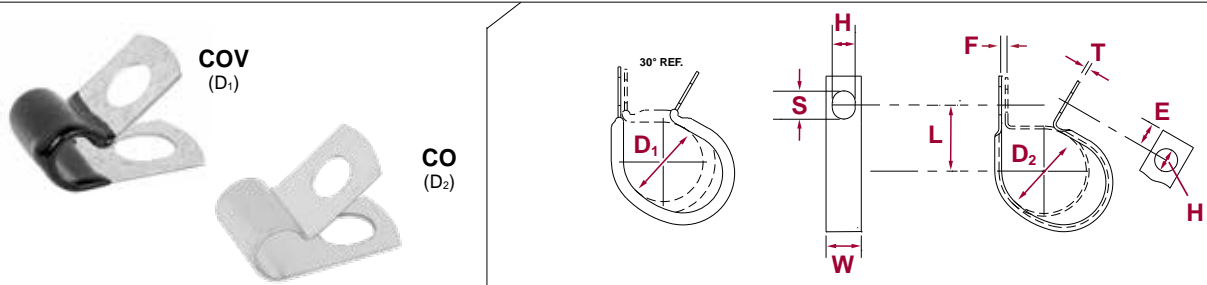
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
1.687	COV-2809	1.750	CO-2809	1.250	.500	.281	.312	.062	.048	.375
	COV-2811		CO-2811	1.312	.625	.343	.375	.062	.048	.437
	COV-2813		CO-2813	1.375	.750	.406	.437	.062	.048	.500
	COV-2815		CO-2815	1.437	.875	.468	.500	.062	.048	.562
	COV-2817		CO-2817	1.500	1.000	.531	.562	.062	.048	.625
1.750	COV-2909	1.812	CO-2909	1.281	.500	.281	.312	.062	.048	.375
	COV-2911		CO-2911	1.343	.625	.343	.375	.062	.048	.437
	COV-2913		CO-2913	1.406	.750	.406	.437	.062	.048	.500
	COV-2915		CO-2915	1.468	.875	.468	.500	.062	.048	.562
	COV-2917		CO-2917	1.531	1.000	.531	.562	.062	.048	.625
1.812	COV-3009	1.875	CO-3009	1.312	.500	.281	.312	.062	.048	.375
	COV-3011		CO-3011	1.375	.625	.343	.375	.062	.048	.437
	COV-3013		CO-3013	1.437	.750	.406	.437	.062	.048	.500
	COV-3015		CO-3015	1.500	.875	.468	.500	.062	.048	.562
	COV-3017		CO-3017	1.562	1.000	.531	.562	.062	.048	.625
1.875	COV-3109	1.937	CO-3109	1.343	.500	.281	.312	.062	.048	.375
	COV-3111		CO-3111	1.406	.625	.343	.375	.062	.048	.437
	COV-3113		CO-3113	1.468	.750	.406	.437	.062	.048	.500
	COV-3115		CO-3115	1.531	.875	.468	.500	.062	.048	.562
	COV-3117		CO-3117	1.593	1.000	.531	.562	.062	.048	.625
1.937	COV-3209	2.000	CO-3209	1.375	.500	.281	.312	.062	.048	.375
	COV-3211		CO-3211	1.437	.625	.343	.375	.062	.048	.437
	COV-3213		CO-3213	1.500	.750	.406	.437	.062	.048	.500
	COV-3215		CO-3215	1.562	.875	.468	.500	.062	.048	.562
	COV-3217		CO-3217	1.625	1.000	.531	.562	.062	.048	.625
2.000	COV-3309	2.062	CO-3309	1.437	.500	.281	.312	.062	.048	.375
	COV-3311		CO-3311	1.500	.625	.343	.375	.062	.048	.437
	COV-3313		CO-3313	1.562	.750	.406	.437	.062	.048	.500
	COV-3315		CO-3315	1.625	.875	.468	.500	.062	.048	.562
	COV-3317		CO-3317	1.687	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

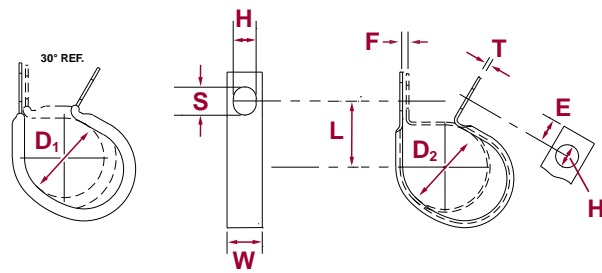
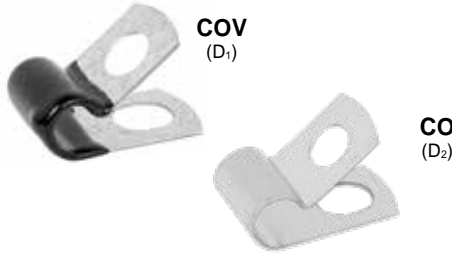
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
2.062	COV-3409	2.125	CO-3409	1.468	.500	.281	.312	.062	.048	.375
	COV-3411		CO-3411	1.531	.625	.343	.375	.062	.048	.437
	COV-3413		CO-3413	1.593	.750	.406	.437	.062	.048	.500
	COV-3415		CO-3415	1.656	.875	.468	.500	.062	.048	.562
	COV-3417		CO-3417	1.718	1.000	.531	.562	.062	.048	.625
2.125	COV-3509	2.187	CO-3509	1.500	.500	.281	.312	.062	.048	.375
	COV-3511		CO-3511	1.562	.625	.343	.375	.062	.048	.437
	COV-3513		CO-3513	1.625	.750	.406	.437	.062	.048	.500
	COV-3515		CO-3515	1.688	.875	.468	.500	.062	.048	.562
	COV-3517		CO-3517	1.750	1.000	.531	.562	.062	.048	.625
2.187	COV-3609	2.250	CO-3609	1.531	.500	.281	.312	.062	.048	.375
	COV-3611		CO-3611	1.593	.625	.343	.375	.062	.048	.437
	COV-3613		CO-3613	1.656	.750	.406	.437	.062	.048	.500
	COV-3615		CO-3615	1.718	.875	.468	.500	.062	.048	.562
	COV-3617		CO-3617	1.781	1.000	.531	.562	.062	.048	.625
2.250	COV-3709	2.312	CO-3709	1.562	.500	.281	.312	.062	.048	.375
	COV-3711		CO-3711	1.625	.625	.343	.375	.062	.048	.437
	COV-3713		CO-3713	1.687	.750	.406	.437	.062	.048	.500
	COV-3715		CO-3715	1.750	.875	.468	.500	.062	.048	.562
	COV-3717		CO-3717	1.812	1.000	.531	.562	.062	.048	.625
2.375	COV-3909	2.437	CO-3909	1.625	.500	.281	.312	.062	.048	.375
	COV-3911		CO-3911	1.687	.625	.343	.375	.062	.048	.437
	COV-3913		CO-3913	1.750	.750	.406	.437	.062	.048	.500
	COV-3915		CO-3915	1.812	.875	.468	.500	.062	.048	.562
	COV-3917		CO-3917	1.875	1.000	.531	.562	.062	.048	.625
2.500	COV-4109	2.562	CO-4109	1.687	.500	.281	.312	.062	.048	.375
	COV-4111		CO-4111	1.750	.625	.343	.375	.062	.048	.437
	COV-4113		CO-4113	1.812	.750	.406	.437	.062	.048	.500
	COV-4115		CO-4115	1.875	.875	.468	.500	.062	.048	.562
	COV-4117		CO-4117	1.937	1.000	.531	.562	.062	.048	.625
2.625	COV-4309	2.687	CO-4309	1.750	.500	.281	.312	.062	.048	.375
	COV-4311		CO-4311	1.812	.625	.343	.375	.062	.048	.437
	COV-4313		CO-4313	1.875	.750	.406	.437	.062	.048	.500
	COV-4315		CO-4315	1.937	.875	.468	.500	.062	.048	.562
	COV-4317		CO-4317	2.000	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.

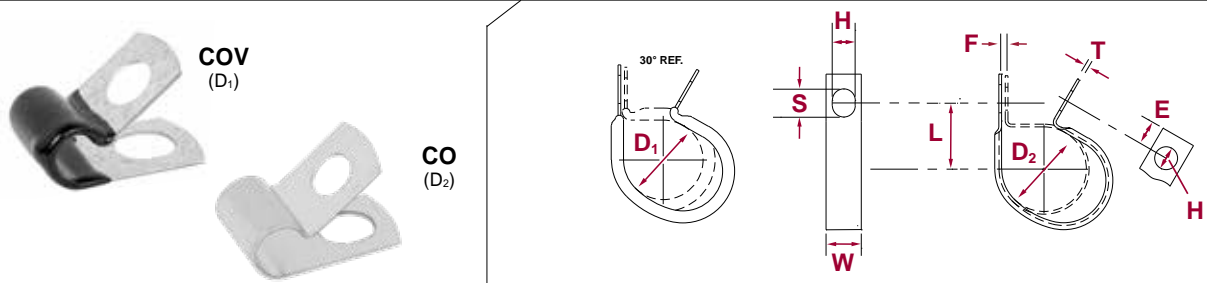
# WIRING AND TUBE CLAMPS Closed Type – Furnished Open

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B;  
Aluminum, Per ASTM B209 (Aluminum not available with cushion)

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
Z2 - .0002 min Zinc, Clear

**CUSHION:** Black Vinyl, 1/32" Thick

**COV-CO:** Parts Have One Round and One Slotted Hole



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T	S
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness	Slot Length
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002	±.020
2.750	COV-4509	2.812	CO-4509	1.812	.500	.281	.312	.062	.048	.375
	COV-4511		CO-4511	1.875	.625	.343	.375	.062	.048	.437
	COV-4513		CO-4513	1.937	.750	.406	.437	.062	.048	.500
	COV-4515		CO-4515	2.000	.875	.468	.500	.062	.048	.562
	COV-4517		CO-4517	2.062	1.000	.531	.562	.062	.048	.625
2.875	COV-4709	2.937	CO-4709	1.875	.500	.281	.312	.062	.048	.375
	COV-4711		CO-4711	1.937	.625	.343	.375	.062	.048	.437
	COV-4713		CO-4713	2.000	.750	.406	.437	.062	.048	.500
	COV-4715		CO-4715	2.062	.875	.468	.500	.062	.048	.562
	COV-4717		CO-4717	2.125	1.000	.531	.562	.062	.048	.625
3.000	COV-4909	3.062	CO-4909	1.937	.500	.281	.312	.062	.048	.375
	COV-4911		CO-4911	2.000	.625	.343	.375	.062	.048	.437
	COV-4913		CO-4913	2.062	.750	.406	.437	.062	.048	.500
	COV-4915		CO-4915	2.125	.875	.468	.500	.062	.048	.562
	COV-4917		CO-4917	2.187	1.000	.531	.562	.062	.048	.625
3.250	COV-5309	3.312	CO-5309	2.062	.500	.281	.312	.062	.048	.375
	COV-5311		CO-5311	2.125	.625	.343	.375	.062	.048	.437
	COV-5313		CO-5313	2.187	.750	.406	.437	.062	.048	.500
	COV-5315		CO-5315	2.250	.875	.468	.500	.062	.048	.562
	COV-5317		CO-5317	2.312	1.000	.531	.562	.062	.048	.625
3.500	COV-5709	3.562	CO-5709	2.187	.500	.281	.312	.062	.048	.375
	COV-5711		CO-5711	2.250	.625	.343	.375	.062	.048	.437
	COV-5713		CO-5713	2.312	.750	.406	.437	.062	.048	.500
	COV-5715		CO-5715	2.375	.875	.468	.500	.062	.048	.562
	COV-5717		CO-5717	2.437	1.000	.531	.562	.062	.048	.625
3.750	COV-6109	3.812	CO-6109	2.312	.500	.281	.312	.062	.048	.375
	COV-6111		CO-6111	2.375	.625	.343	.375	.062	.048	.437
	COV-6113		CO-6113	2.437	.750	.406	.437	.062	.048	.500
	COV-6115		CO-6115	2.500	.875	.468	.500	.062	.048	.562
	COV-6117		CO-6117	2.562	1.000	.531	.562	.062	.048	.625
4.000	COV-6509	4.062	CO-6509	2.437	.500	.281	.312	.062	.048	.375
	COV-6511		CO-6511	2.500	.625	.343	.375	.062	.048	.437
	COV-6513		CO-6513	2.562	.750	.406	.437	.062	.048	.500
	COV-6515		CO-6515	2.625	.875	.468	.500	.062	.048	.562
	COV-6517		CO-6517	2.687	1.000	.531	.562	.062	.048	.625

Except for clamping diameter, dimensions of cushioned and non-cushioned parts are identical.



# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

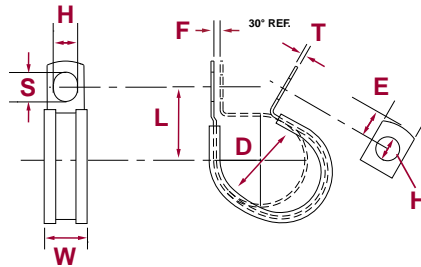
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.187	COL-0309	.854	.500	.375	.281	.312	.062	.032
	COL-0311	.791	.625	.437	.343	.375	.062	.032
	COL-0313	.729	.750	.500	.406	.437	.062	.032
.250	COL-0407	.711	.500	.297	.203	.250	.062	.032
	COL-0409	.674	.500	.375	.281	.312	.062	.032
	COL-0411	.611	.625	.437	.343	.375	.062	.032
	COL-0413	.656	.750	.500	.406	.437	.062	.032
	COL-0415	.718	.750	.562	.468	.500	.062	.032
	COL-0417	.781	1.000	.625	.531	.562	.062	.032
.312	COL-0507	.569	.500	.297	.203	.250	.062	.032
	COL-0509	.562	.500	.375	.281	.312	.062	.032
	COL-0511	.625	.625	.437	.343	.375	.062	.032
	COL-0513	.687	.750	.500	.406	.437	.062	.032
	COL-0515	.750	.750	.562	.468	.500	.062	.032
	COL-0517	.812	1.000	.625	.531	.562	.062	.032
.375	COL-0607	.500	.500	.297	.203	.250	.062	.032
	COL-0609	.593	.500	.375	.281	.312	.062	.032
	COL-0611	.656	.625	.437	.343	.375	.062	.032
	COL-0613	.718	.750	.500	.406	.437	.062	.032
	COL-0615	.781	.750	.562	.468	.500	.062	.032
	COL-0617	.843	1.000	.625	.531	.562	.062	.032
.437	COL-0707	.531	.500	.297	.203	.250	.062	.032
	COL-0709	.625	.500	.375	.281	.312	.062	.032
	COL-0711	.687	.625	.437	.343	.375	.062	.032
	COL-0713	.750	.750	.500	.406	.437	.062	.032
	COL-0715	.812	.750	.562	.468	.500	.062	.032
	COL-0717	.875	1.000	.625	.531	.562	.062	.032
.500	COL-0807	.562	.500	.297	.203	.250	.062	.032
	COL-0809	.656	.500	.375	.281	.312	.062	.032
	COL-0811	.718	.625	.437	.343	.375	.062	.032
	COL-0813	.781	.750	.500	.406	.437	.062	.032
	COL-0815	.843	.750	.562	.468	.500	.062	.032
	COL-0817	.906	1.000	.625	.531	.562	.062	.032

# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

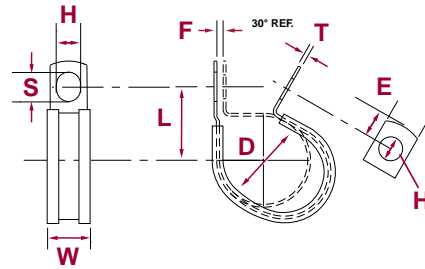
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



Medium Duty Clamps

D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.562	COL-0907	.687	.500	.297	.203	.250	.062	.032
	COL-0909	.750	.500	.375	.281	.312	.062	.032
	COL-0911	.812	.625	.437	.343	.375	.062	.048
	COL-0913	.875	.750	.500	.406	.437	.062	.048
	COL-0915	.937	.750	.562	.468	.500	.062	.048
	COL-0917	1.000	1.000	.625	.531	.562	.062	.048
.625	COL-1007	.718	.500	.297	.203	.250	.062	.032
	COL-1009	.781	.500	.375	.281	.312	.062	.032
	COL-1011	.843	.625	.437	.343	.375	.062	.048
	COL-1013	.906	.750	.500	.406	.437	.062	.048
	COL-1015	.968	.750	.562	.468	.500	.062	.048
	COL-1017	1.031	1.000	.625	.531	.562	.062	.048
.687	COL-1107	.750	.500	.297	.203	.250	.062	.032
	COL-1109	.812	.500	.375	.281	.312	.062	.032
	COL-1111	.875	.625	.437	.343	.375	.062	.048
	COL-1113	.937	.750	.500	.406	.437	.062	.048
	COL-1115	1.000	.750	.562	.468	.500	.062	.048
	COL-1117	1.062	1.000	.625	.531	.562	.062	.048
.750	COL-1207	.781	.500	.297	.203	.250	.062	.032
	COL-1209	.843	.500	.375	.281	.312	.062	.032
	COL-1211	.906	.625	.437	.343	.375	.062	.048
	COL-1213	.968	.750	.500	.406	.437	.062	.048
	COL-1215	1.031	.750	.562	.468	.500	.062	.048
	COL-1217	1.095	1.000	.625	.531	.562	.062	.048
.812	COL-1307	.812	.500	.297	.203	.250	.062	.032
	COL-1309	.875	.500	.375	.281	.312	.062	.032
	COL-1311	.937	.625	.437	.343	.375	.062	.048
	COL-1313	1.000	.750	.500	.406	.437	.062	.048
	COL-1315	1.062	.750	.562	.468	.500	.062	.048
	COL-1317	1.125	1.000	.625	.531	.562	.062	.048

# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

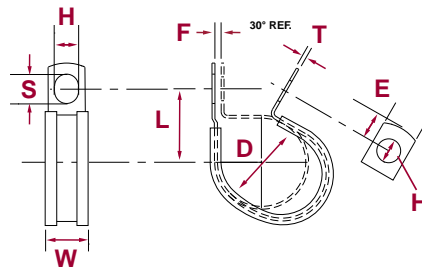
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.875	COL-1407	.843	.500	.297	.203	.250	.062	.032
	COL-1409	.906	.500	.375	.281	.312	.062	.032
	COL-1411	.968	.625	.437	.343	.375	.062	.048
	COL-1413	1.031	.750	.500	.406	.437	.062	.048
	COL-1415	1.093	.750	.562	.468	.500	.062	.048
	COL-1417	1.156	1.000	.625	.531	.562	.062	.048
.937	COL-1507	.875	.500	.297	.203	.250	.062	.032
	COL-1509	.937	.500	.375	.281	.312	.062	.032
	COL-1511	1.000	.625	.437	.343	.375	.062	.048
	COL-1513	1.062	.750	.500	.406	.437	.062	.048
	COL-1515	1.125	.750	.562	.468	.500	.062	.048
	COL-1517	1.187	1.000	.625	.531	.562	.062	.048
1.000	COL-1607	.906	.500	.297	.203	.250	.062	.032
	COL-1609	.968	.500	.375	.281	.312	.062	.032
	COL-1611	1.031	.625	.437	.343	.375	.062	.048
	COL-1613	1.093	.750	.500	.406	.437	.062	.048
	COL-1615	1.156	.750	.562	.468	.500	.062	.048
	COL-1617	1.218	1.000	.625	.531	.562	.062	.048
1.062	COL-1709	1.000	.500	.375	.281	.312	.062	.048
	COL-1711	1.062	.625	.437	.343	.375	.062	.048
	COL-1713	1.125	.750	.500	.406	.437	.062	.048
	COL-1715	1.187	.750	.562	.468	.500	.062	.048
	COL-1717	1.250	1.000	.625	.531	.562	.062	.048
1.125	COL-1809	1.031	.500	.375	.281	.312	.062	.048
	COL-1811	1.093	.625	.437	.343	.375	.062	.048
	COL-1813	1.156	.750	.500	.406	.437	.062	.048
	COL-1815	1.218	.750	.562	.468	.500	.062	.048
	COL-1817	1.281	1.000	.625	.531	.562	.062	.048

Medium Duty Clamps

# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

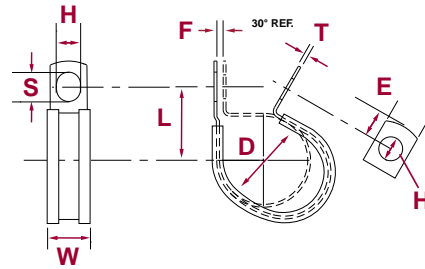
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



Medium Duty Clamps

D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
1.187	COL-1909	1.062	.500	.375	.281	.312	.062	.048
	COL-1911	1.125	.625	.437	.343	.375	.062	.048
	COL-1913	1.187	.750	.500	.406	.437	.062	.048
	COL-1915	1.250	.750	.562	.468	.500	.062	.048
	COL-1917	1.312	1.000	.625	.531	.562	.062	.048
1.250	COL-2009	1.093	.500	.375	.281	.312	.062	.048
	COL-2011	1.156	.625	.437	.343	.375	.062	.048
	COL-2013	1.218	.750	.500	.406	.437	.062	.048
	COL-2015	1.281	.750	.562	.468	.500	.062	.048
	COL-2017	1.343	1.000	.625	.531	.562	.062	.048
1.312	COL-2109	1.125	.500	.375	.281	.312	.062	.048
	COL-2111	1.187	.625	.437	.343	.375	.062	.048
	COL-2113	1.250	.750	.500	.406	.437	.062	.048
	COL-2115	1.312	.750	.562	.468	.500	.062	.048
	COL-2117	1.375	1.000	.625	.531	.562	.062	.048
1.375	COL-2209	1.156	.500	.375	.281	.312	.062	.048
	COL-2211	1.218	.625	.437	.343	.375	.062	.048
	COL-2213	1.281	.750	.500	.406	.437	.062	.048
	COL-2215	1.343	.750	.562	.468	.500	.062	.048
	COL-2217	1.406	1.000	.625	.531	.562	.062	.048
1.437	COL-2309	1.187	.500	.375	.281	.312	.062	.048
	COL-2311	1.250	.625	.437	.343	.375	.062	.048
	COL-2313	1.312	.750	.500	.406	.437	.062	.048
	COL-2315	1.375	.750	.562	.468	.500	.062	.048
	COL-2317	1.437	1.000	.625	.531	.562	.062	.048
1.500	COL-2409	1.218	.500	.375	.281	.312	.062	.048
	COL-2411	1.281	.625	.437	.343	.375	.062	.048
	COL-2413	1.343	.750	.500	.406	.437	.062	.048
	COL-2415	1.406	.750	.562	.468	.500	.062	.048
	COL-2417	1.468	1.000	.625	.531	.562	.062	.048



# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

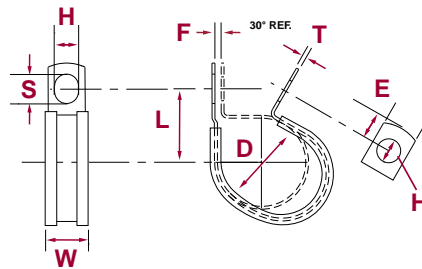
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
1.562	COL-2509	1.250	.500	.375	.281	.312	.062	.048
	COL-2511	1.312	.625	.437	.343	.375	.062	.048
	COL-2513	1.375	.750	.500	.406	.437	.062	.048
	COL-2515	1.437	.750	.562	.468	.500	.062	.048
	COL-2517	1.500	1.000	.625	.531	.562	.062	.048
1.625	COL-2609	1.281	.500	.375	.281	.312	.062	.048
	COL-2611	1.343	.625	.437	.343	.375	.062	.048
	COL-2613	1.406	.750	.500	.406	.437	.062	.048
	COL-2615	1.468	.750	.562	.468	.500	.062	.048
	COL-2617	1.531	1.000	.625	.531	.562	.062	.048
1.687	COL-2709	1.312	.500	.375	.281	.312	.062	.048
	COL-2711	1.375	.625	.437	.343	.375	.062	.048
	COL-2713	1.437	.750	.500	.406	.437	.062	.048
	COL-2715	1.500	.750	.562	.468	.500	.062	.048
	COL-2717	1.562	1.000	.625	.531	.562	.062	.048
1.750	COL-2809	1.343	.500	.375	.281	.312	.062	.048
	COL-2811	1.406	.625	.437	.343	.375	.062	.048
	COL-2813	1.468	.750	.500	.406	.437	.062	.048
	COL-2815	1.531	.750	.562	.468	.500	.062	.048
	COL-2817	1.593	1.000	.625	.531	.562	.062	.048
1.812	COL-2909	1.375	.500	.375	.281	.312	.062	.048
	COL-2911	1.437	.625	.437	.343	.375	.062	.048
	COL-2913	1.500	.750	.500	.406	.437	.062	.048
	COL-2915	1.562	.750	.562	.468	.500	.062	.048
	COL-2917	1.624	1.000	.625	.531	.562	.062	.048
1.875	COL-3009	1.406	.500	.375	.281	.312	.062	.048
	COL-3011	1.468	.625	.437	.343	.375	.062	.048
	COL-3013	1.531	.750	.500	.406	.437	.062	.048
	COL-3015	1.593	.750	.562	.468	.500	.062	.048
	COL-3017	1.656	1.000	.625	.531	.562	.062	.048

Medium Duty Clamps

# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

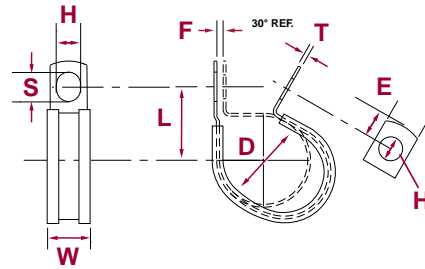
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



Medium Duty Clamps

D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
1.937	COL-3109	1.437	.500	.375	.281	.312	.062	.048
	COL-3111	1.500	.625	.437	.343	.375	.062	.048
	COL-3113	1.562	.750	.500	.406	.437	.062	.048
	COL-3115	1.625	.750	.562	.468	.500	.062	.048
	COL-3117	1.687	1.000	.625	.531	.562	.062	.048
2.000	COL-3209	1.500	.500	.375	.281	.312	.062	.048
	COL-3211	1.562	.625	.437	.343	.375	.062	.048
	COL-3213	1.625	.750	.500	.406	.437	.062	.048
	COL-3215	1.687	.750	.562	.468	.500	.062	.048
	COL-3217	1.750	1.000	.625	.531	.562	.062	.048
2.062	COL-3309	1.531	.500	.375	.281	.312	.062	.048
	COL-3311	1.593	.625	.437	.343	.375	.062	.048
	COL-3313	1.656	.750	.500	.406	.437	.062	.048
	COL-3315	1.718	.750	.562	.468	.500	.062	.048
	COL-3317	1.781	1.000	.625	.531	.562	.062	.048
2.125	COL-3409	1.562	.500	.375	.281	.312	.062	.048
	COL-3411	1.625	.625	.437	.343	.375	.062	.048
	COL-3413	1.688	.750	.500	.406	.437	.062	.048
	COL-3415	1.750	.750	.562	.468	.500	.062	.048
	COL-3417	1.812	1.000	.625	.531	.562	.062	.048
2.187	COL-3509	1.593	.500	.375	.281	.312	.062	.048
	COL-3511	1.656	.625	.437	.343	.375	.062	.048
	COL-3513	1.718	.750	.500	.406	.437	.062	.048
	COL-3515	1.781	.750	.562	.468	.500	.062	.048
	COL-3517	1.844	1.000	.625	.531	.562	.062	.048

# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

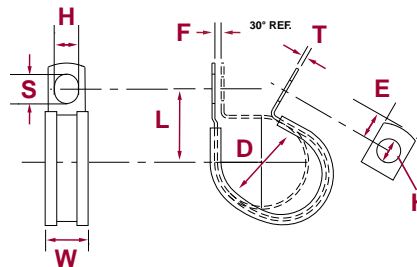
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
2.250	COL-3609	1.625	.500	.375	.281	.312	.062	.048
	COL-3611	1.687	.625	.437	.343	.375	.062	.048
	COL-3613	1.750	.750	.500	.406	.437	.062	.048
	COL-3615	1.812	.750	.562	.468	.500	.062	.048
	COL-3617	1.875	1.000	.625	.531	.562	.062	.048
2.375	COL-3809	1.687	.500	.375	.281	.312	.062	.048
	COL-3811	1.750	.625	.437	.343	.375	.062	.048
	COL-3813	1.812	.750	.500	.406	.437	.062	.048
	COL-3815	1.875	.750	.562	.468	.500	.062	.048
	COL-3817	1.937	1.000	.625	.531	.562	.062	.048
2.500	COL-4009	1.750	.500	.375	.281	.312	.062	.048
	COL-4011	1.812	.625	.437	.343	.375	.062	.048
	COL-4013	1.875	.750	.500	.406	.437	.062	.048
	COL-4015	1.937	.750	.562	.468	.500	.062	.048
	COL-4017	2.000	1.000	.625	.531	.562	.062	.048
2.625	COL-4209	1.812	.500	.375	.281	.312	.062	.048
	COL-4211	1.875	.625	.437	.343	.375	.062	.048
	COL-4213	1.937	.750	.500	.406	.437	.062	.048
	COL-4215	2.000	.750	.562	.468	.500	.062	.048
	COL-4217	2.062	1.000	.625	.531	.562	.062	.048
2.750	COL-4409	1.875	.500	.375	.281	.312	.062	.048
	COL-4411	1.937	.625	.437	.343	.375	.062	.048
	COL-4413	2.000	.750	.500	.406	.437	.062	.048
	COL-4415	2.062	.750	.562	.468	.500	.062	.048
	COL-4417	2.125	1.000	.625	.531	.562	.062	.048

Medium Duty Clamps

# WIRING AND TUBE CLAMPS Closed Type – Furnished Open – Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Aluminum, Per ASTM B209;  
Stainless Steel, Per ASTM A240/A666

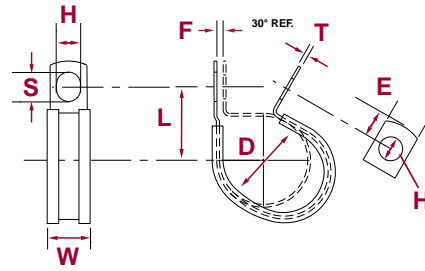
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



COL  
(D)



Medium Duty Clamps

D	L	W	S	H	E	F	T	
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
2.875	COL-4609	1.937	.500	.375	.281	.312	.062	.048
	COL-4611	2.000	.625	.437	.343	.375	.062	.048
	COL-4613	2.062	.750	.500	.406	.437	.062	.048
	COL-4615	2.125	.750	.562	.468	.500	.062	.048
	COL-4617	2.188	1.000	.625	.531	.562	.062	.048
3.000	COL-4809	2.000	.500	.375	.281	.312	.062	.048
	COL-4811	2.062	.625	.437	.343	.375	.062	.048
	COL-4813	2.125	.750	.500	.406	.437	.062	.048
	COL-4815	2.187	.750	.562	.468	.500	.062	.048
	COL-4817	2.250	1.000	.625	.531	.562	.062	.048
3.250	COL-5209	2.125	.500	.375	.281	.312	.062	.048
	COL-5211	2.187	.625	.437	.343	.375	.062	.048
	COL-5213	2.250	.750	.500	.406	.437	.062	.048
	COL-5215	2.312	.750	.562	.468	.500	.062	.048
	COL-5217	2.375	1.000	.625	.531	.562	.062	.048
3.500	COL-5609	2.250	.500	.375	.281	.312	.062	.048
	COL-5611	2.312	.625	.437	.343	.375	.062	.048
	COL-5613	2.375	.750	.500	.406	.437	.062	.048
	COL-5615	2.437	.750	.562	.468	.500	.062	.048
	COL-5617	2.500	1.000	.625	.531	.562	.062	.048
3.750	COL-6009	2.375	.500	.375	.281	.312	.062	.048
	COL-6011	2.437	.625	.437	.343	.375	.062	.048
	COL-6013	2.500	.750	.500	.406	.437	.062	.048
	COL-6015	2.562	.750	.562	.468	.500	.062	.048
	COL-6017	2.625	1.000	.625	.531	.562	.062	.048
4.000	COL-6409	2.500	.500	.375	.281	.312	.062	.048
	COL-6411	2.562	.625	.437	.343	.375	.062	.048
	COL-6413	2.625	.750	.500	.406	.437	.062	.048
	COL-6415	2.687	.750	.562	.468	.500	.062	.048
	COL-6417	2.750	1.000	.625	.531	.562	.062	.048



# TUBE CLAMPS Furnished Closed

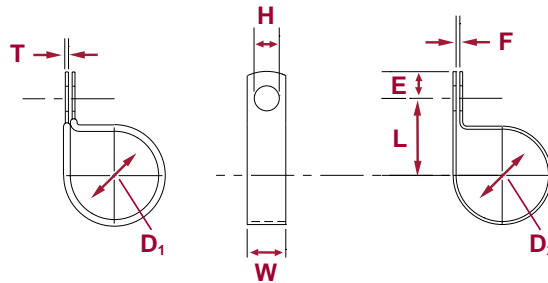
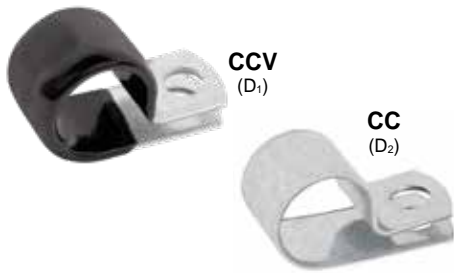
**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

**CUSHION:** Black Vinyl, 1/32" Thick.

**NOTE:** CCV-CC Clamps Are Formed Closed – Natural Spring Back Allowed.

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002
.250	CCV-0509	.312	CC-0509	.562	.625	.281	.25	.062	.032
	CCV-0511		CC-0511	.625	.625	.343	.312	.062	.032
	CCV-0513		CC-0513	.688	.750	.406	.375	.062	.032
.312	CCV-0609	.375	CC-0609	.593	.625	.281	.250	.062	.032
	CCV-0611		CC-0611	.656	.625	.343	.312	.062	.032
	CCV-0613		CC-0613	.718	.750	.406	.375	.062	.032
	CCV-0615		CC-0615	.781	.750	.468	.437	.062	.032
	CCV-0617		CC-0617	.843	.875	.531	.500	.062	.032
.375	CCV-0709	.437	CC-0709	.625	.625	.281	.250	.062	.048
	CCV-0711		CC-0711	.687	.625	.343	.312	.062	.048
	CCV-0713		CC-0713	.750	.750	.406	.375	.062	.048
	CCV-0715		CC-0715	.812	.750	.468	.437	.062	.048
	CCV-0717		CC-0717	.875	.875	.531	.500	.062	.048
.437	CCV-0809	.500	CC-0809	.687	.625	.281	.250	.062	.048
	CCV-0811		CC-0811	.750	.625	.343	.312	.062	.048
	CCV-0813		CC-0813	.812	.750	.406	.375	.062	.048
	CCV-0815		CC-0815	.875	.875	.468	.437	.062	.048
	CCV-0817		CC-0817	.937	1.000	.531	.500	.062	.048
.500	CCV-0909	.562	CC-0909	.718	.625	.281	.250	.062	.048
	CCV-0911		CC-0911	.781	.625	.343	.312	.062	.048
	CCV-0913		CC-0913	.843	.750	.406	.375	.062	.048
	CCV-0915		CC-0915	.906	.875	.468	.437	.062	.048
	CCV-0917		CC-0917	.968	1.000	.531	.500	.062	.048
.562	CCV-1009	.625	CC-1009	.750	.625	.281	.250	.062	.048
	CCV-1011		CC-1011	.812	.625	.343	.312	.062	.048
	CCV-1013		CC-1013	.875	.750	.406	.375	.062	.048
	CCV-1015		CC-1015	.937	.875	.468	.437	.062	.048
	CCV-1017		CC-1017	1.000	1.000	.531	.500	.062	.048
.625	CCV-1109	.687	CC-1109	.781	.625	.281	.250	.062	.048
	CCV-1111		CC-1111	.843	.625	.343	.312	.062	.048
	CCV-1113		CC-1113	.906	.750	.406	.375	.062	.048
	CCV-1115		CC-1115	.968	.875	.468	.437	.062	.048
	CCV-1117		CC-1117	1.031	1.000	.531	.500	.062	.048

# TUBE CLAMPS Furnished Closed

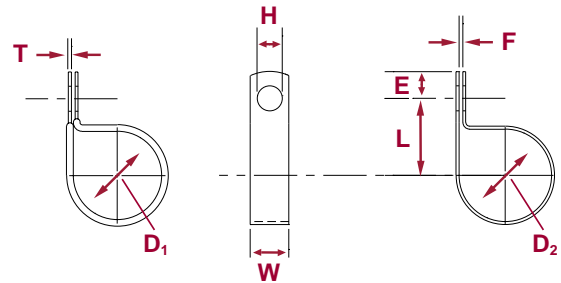
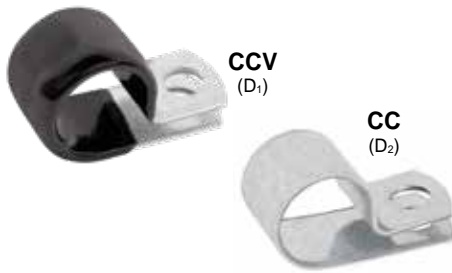
**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

**CUSHION:** Black Vinyl, 1/32" Thick.

**NOTE:** CCV-CC Clamps Are Formed Closed – Natural Spring Back Allowed.

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002
.687	CCV-1209	.750	CC-1209	.843	.625	.281	.250	.062	.060
	CCV-1211		CC-1211	.906	.625	.343	.312	.062	.060
	CCV-1213		CC-1213	.968	.750	.406	.375	.062	.060
	CCV-1215		CC-1215	1.031	.875	.468	.437	.062	.060
	CCV-1217		CC-1217	1.093	1.000	.531	.500	.062	.060
.750	CCV-1309	.812	CC-1309	.906	.625	.281	.250	.062	.060
	CCV-1311		CC-1311	.968	.625	.343	.312	.062	.060
	CCV-1313		CC-1313	1.031	.750	.406	.375	.062	.060
	CCV-1315		CC-1315	1.093	.875	.468	.437	.062	.060
	CCV-1317		CC-1317	1.156	1.000	.531	.500	.062	.060
.812	CCV-1409	.875	CC-1409	.937	.625	.281	.250	.062	.060
	CCV-1411		CC-1411	1.000	.625	.343	.312	.062	.060
	CCV-1413		CC-1413	1.062	.750	.406	.375	.062	.060
	CCV-1415		CC-1415	1.125	.875	.468	.437	.062	.060
	CCV-1417		CC-1417	1.187	1.000	.531	.500	.062	.060
.875	CCV-1509	.937	CC-1509	1.000	.625	.281	.250	.062	.060
	CCV-1511		CC-1511	1.062	.625	.343	.312	.062	.060
	CCV-1513		CC-1513	1.125	.750	.406	.375	.062	.060
	CCV-1515		CC-1515	1.187	.875	.468	.437	.062	.060
	CCV-1517		CC-1517	1.250	1.000	.531	.500	.062	.060
.937	CCV-1609	1.000	CC-1609	1.062	.625	.281	.250	.062	.060
	CCV-1611		CC-1611	1.125	.750	.343	.312	.062	.060
	CCV-1613		CC-1613	1.187	.750	.406	.375	.062	.060
	CCV-1615		CC-1615	1.250	.875	.468	.437	.062	.060
	CCV-1617		CC-1617	1.312	1.000	.531	.500	.062	.060
1.000	CCV-1709	1.062	CC-1709	1.125	.625	.281	.250	.062	.060
	CCV-1711		CC-1711	1.187	.750	.343	.312	.062	.060
	CCV-1713		CC-1713	1.250	.750	.406	.375	.062	.060
	CCV-1715		CC-1715	1.312	.875	.468	.437	.062	.060
	CCV-1717		CC-1717	1.375	1.000	.531	.500	.062	.060

# TUBE CLAMPS Furnished Closed

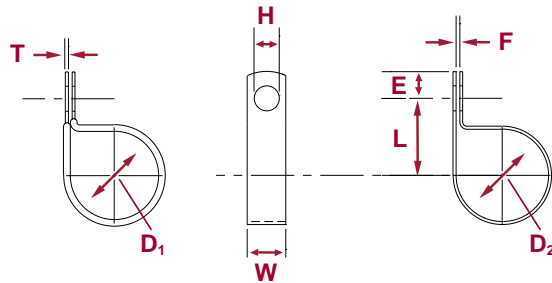
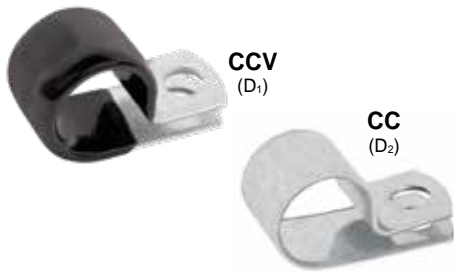
**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

**CUSHION:** Black Vinyl, 1/32" Thick.

**NOTE:** CCV-CC Clamps Are Formed Closed – Natural Spring Back Allowed.

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002
1.062	CCV-1809	1.125	CC-1809	1.156	.625	.281	.250	.093	.060
	CCV-1811		CC-1811	1.218	.750	.343	.312	.093	.060
	CCV-1813		CC-1813	1.281	.750	.406	.375	.093	.060
	CCV-1815		CC-1815	1.343	.875	.468	.437	.093	.060
	CCV-1817		CC-1817	1.406	1.000	.531	.500	.093	.060
1.125	CCV-1911	1.187	CC-1911	1.250	.750	.343	.312	.093	.060
	CCV-1913		CC-1913	1.312	.750	.406	.375	.093	.060
	CCV-1915		CC-1915	1.375	.875	.468	.437	.093	.060
	CCV-1917		CC-1917	1.437	1.000	.531	.500	.093	.060
1.187	CCV-2011	1.250	CC-2011	1.281	.750	.343	.437	.093	.060
	CCV-2013		CC-2013	1.343	.750	.406	.500	.093	.060
	CCV-2015		CC-2015	1.406	.875	.468	.500	.093	.060
	CCV-2017		CC-2017	1.468	1.000	.531	.562	.093	.060
1.250	CCV-2111	1.312	CC-2111	1.312	.750	.343	.437	.093	.060
	CCV-2113		CC-2113	1.375	.750	.406	.500	.093	.060
	CCV-2115		CC-2115	1.437	.875	.468	.500	.093	.060
	CCV-2117		CC-2117	1.500	1.000	.531	.562	.093	.060
1.312	CCV-2211	1.375	CC-2211	1.343	.750	.343	.437	.093	.060
	CCV-2213		CC-2213	1.406	.750	.406	.500	.093	.060
	CCV-2215		CC-2215	1.468	.875	.468	.500	.093	.060
	CCV-2217		CC-2217	1.531	1.000	.531	.562	.093	.060
1.375	CCV-2311	1.437	CC-2311	1.375	.750	.343	.437	.093	.060
	CCV-2313		CC-2313	1.437	.750	.406	.500	.093	.060
	CCV-2315		CC-2315	1.500	.875	.468	.500	.093	.060
	CCV-2317		CC-2317	1.562	1.000	.531	.562	.093	.060
1.437	CCV-2411	1.500	CC-2411	1.437	.750	.343	.437	.093	.060
	CCV-2413		CC-2413	1.500	.750	.406	.500	.093	.060
	CCV-2415		CC-2415	1.562	.875	.468	.500	.093	.060
	CCV-2417		CC-2417	1.625	1.000	.531	.562	.093	.060
1.500	CCV-2511	1.562	CC-2511	1.468	.750	.343	.437	.125	.060
	CCV-2513		CC-2513	1.531	.750	.406	.500	.125	.060
	CCV-2515		CC-2515	1.593	.875	.468	.500	.125	.060
	CCV-2517		CC-2517	1.656	1.000	.531	.562	.125	.060

# TUBE CLAMPS Furnished Closed

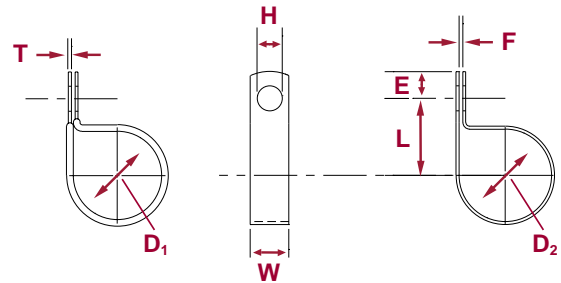
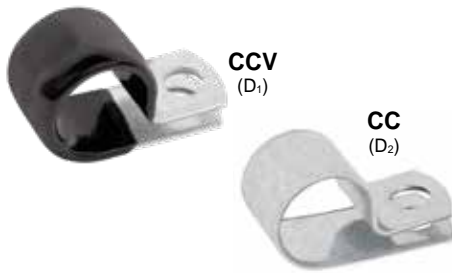
**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B

**CUSHION:** Black Vinyl, 1/32" Thick.

**NOTE:** CCV-CC Clamps Are Formed Closed – Natural Spring Back Allowed.

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

Z2 - .0002 min Zinc, Clear



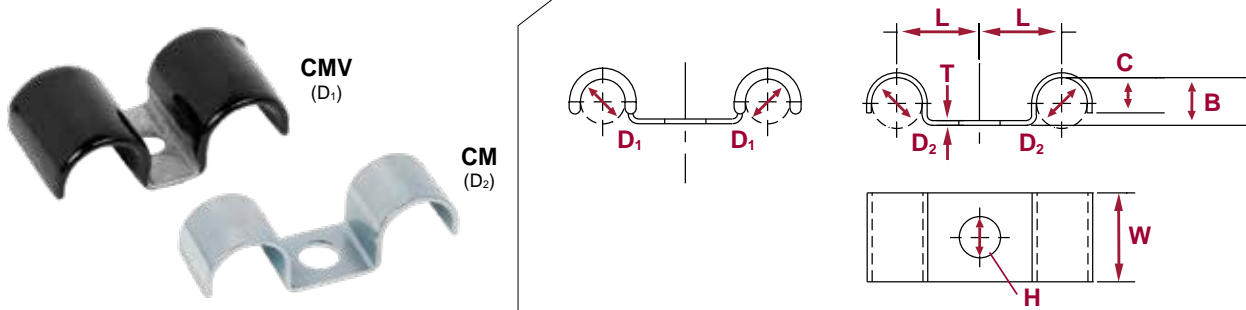
D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	F	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.031	±.002
1.562	CCV-2611	1.625	CC-2611	1.500	.750	.343	.437	.125	.060
	CCV-2613		CC-2613	1.562	.750	.406	.500	.125	.060
	CCV-2615		CC-2615	1.625	.875	.468	.500	.125	.060
	CCV-2617		CC-2617	1.687	1.000	.531	.537	.125	.060
1.625	CCV-2711	1.687	CC-2711	1.531	.750	.343	.437	.125	.060
	CCV-2713		CC-2713	1.593	.750	.406	.500	.125	.060
	CCV-2715		CC-2715	1.656	.875	.468	.500	.125	.060
	CCV-2717		CC-2717	1.718	1.000	.531	.537	.125	.060
1.687	CCV-2811	1.750	CC-2811	1.562	.750	.343	.437	.125	.060
	CCV-2813		CC-2813	1.625	.750	.406	.500	.125	.060
	CCV-2815		CC-2815	1.687	.875	.468	.500	.125	.060
	CCV-2817		CC-2817	1.750	1.000	.531	.537	.125	.060
1.750	CCV-2911	1.812	CC-2911	1.625	.750	.343	.437	.125	.060
	CCV-2913		CC-2913	1.687	.750	.406	.500	.125	.060
	CCV-2915		CC-2915	1.750	.875	.468	.500	.125	.060
	CCV-2917		CC-2917	1.812	1.000	.531	.537	.125	.060
1.812	CCV-3011	1.875	CC-3011	1.656	.750	.343	.437	.125	.060
	CCV-3013		CC-3013	1.718	.750	.406	.500	.125	.060
	CCV-3015		CC-3015	1.781	.875	.468	.500	.125	.060
	CCV-3017		CC-3017	1.843	1.000	.531	.537	.125	.060
1.875	CCV-3111	1.937	CC-3111	1.687	.750	.343	.437	.125	.060
	CCV-3113		CC-3113	1.750	.750	.406	.500	.125	.060
	CCV-3115		CC-3115	1.812	.875	.468	.500	.125	.060
	CCV-3117		CC-3117	1.875	1.000	.531	.537	.125	.060
1.937	CCV-3211	2.000	CC-3211	1.781	.750	.343	.437	.125	.060
	CCV-3213		CC-3213	1.843	.750	.406	.500	.125	.060
	CCV-3215		CC-3215	1.906	.875	.468	.500	.125	.060
	CCV-3217		CC-3217	1.968	1.000	.531	.537	.125	.060
2.000	CCV-3311	2.062	CC-3311	1.812	.750	.343	.437	.125	.060
	CCV-3313		CC-3313	1.875	.750	.406	.500	.125	.060
	CCV-3315		CC-3315	1.937	.875	.468	.500	.125	.060
	CCV-3317		CC-3317	2.000	1.000	.531	.537	.125	.060

Heavy Duty Clamps

# DOUBLE PIPE CLAMPS Center Mounting Hole

**MATERIAL:** HD Galv Steel, Per ASTM A653/A563M; CRS, Per ASTM A 1008 CS Type B; HRPO  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear



D <sub>1</sub>		D <sub>2</sub>		L	W	H	B	C	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Base To Top Of Radius	Ref Only Closure	Material Thickness
		±.015		±.031	±.010	±.005	±.015	±.015	±.002
		.187	CM-0307	.437	.500	.218	.156	.093	.048
			CM-0309	.437	.500	.281	.156	.093	.048
		.250	CM-0407	.437	.500	.218	.093	.093	.048
			CM-0409	.437	.500	.281	.093	.093	.048
		.312	CM-0507	.531	.625	.218	.296	.265	.048
			CM-0509	.531	.625	.281	.296	.265	.048
.312	CMV-0609	.375	CM-0609	.625	.625	.281	.343	.281	.048
	CMV-0611		CM-0611	.625	.625	.343	.343	.281	.048
.375	CMV-0709	.437	CM-0709	.687	.750	.281	.375	.343	.048
	CMV-0711		CM-0711	.687	.750	.343	.375	.343	.048
.437	CMV-0809	.500	CM-0809	.812	.750	.281	.437	.250	.060
	CMV-0811		CM-0811	.812	.750	.343	.437	.250	.060
.500	CMV-0909	.562	CM-0909	.875	.750	.281	.468	.400	.060
	CMV-0911		CM-0911	.875	.750	.343	.468	.400	.060
.562	CMV-1009	.625	CM-1009	.625	.750	.281	.625	.500	.060
	CMV-1011		CM-1011	.625	.750	.343	.625	.500	.060
.625	CMV-1109	.687	CM-1109	.625	1.000	.281	.625	.437	.060
.750	CMV-1311*	.812	CM-1311*	1.250	1.000	.343	.718	.406	.090**
	CMV-1313*		CM-1313*	1.250	1.000	.406	.718	.406	.090**
.812	CMV-1409*	.875	CM-1409*	.906	.750	.281	.843	.687	.090**
	CMV-1413*		CM-1413*	.906	.750	.406	.843	.687	.090**
.937	CMV-1609*	1.000	CM-1609*	1.062	.750	.281	.906	.750	.090**
1.000	CMV-1713*	1.062	CM-1713*	1.156	1.000	.406	.968	.968	.120**

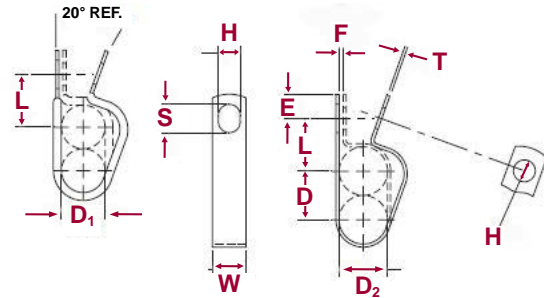
**NOTE:** Part numbers shown with an asterisk (\*) are only available in Z2.  
 Part numbers shown with a double asterisk (\*\*) have a material thickness tolerance of ±.004.



# DOUBLE TUBE CLAMPS

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear



Double Tube Clamps

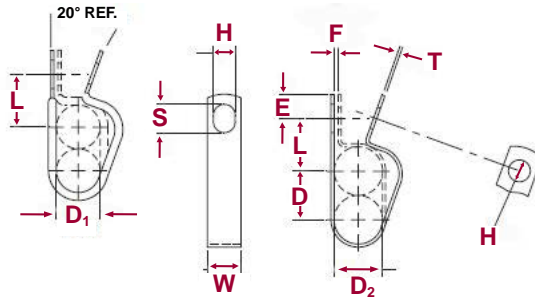
D		L		L	W	S	H	E	F	T
Diameter of Tubes	Part Number	Center To Center	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
		±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.187			CD-0307	.437	.500	.203	.203	.218	.031	.032
			CD-0309	.468	.500	.375	.281	.312	.031	.032
	CDV-0311	.562	CD-0311	.531	.625	.437	.343	.375	.031	.032
	CDV-0313	.625	CD-0313	.593	.750	.500	.406	.437	.031	.032
.250	CDV-0407	.500	CD-0407	.468	.500	.203	.203	.218	.031	.032
	CDV-0409	.531	CD-0409	.500	.500	.375	.281	.312	.031	.032
	CDV-0411	.593	CD-0411	.562	.625	.437	.343	.375	.031	.032
	CDV-0413	.656	CD-0413	.625	.750	.500	.406	.437	.031	.032
.312	CDV-0509	.562	CD-0509	.531	.500	.375	.281	.312	.031	.032
	CDV-0511	.625	CD-0511	.593	.625	.437	.343	.375	.031	.032
	CDV-0513	.687	CD-0513	.656	.750	.500	.406	.437	.031	.032
.375	CDV-0609	.593	CD-0609	.562	.500	.375	.281	.312	.062	.032
	CDV-0611	.656	CD-0611	.625	.625	.437	.343	.375	.062	.032
	CDV-0613	.718	CD-0613	.687	.750	.500	.406	.437	.062	.032
	CDV-0615	.781	CD-0615	.750	.875	.562	.468	.500	.062	.032
	CDV-0617	.843	CD-0617	.812	1.000	.625	.531	.562	.062	.032
.437	CDV-0709	.625	CD-0709	.593	.500	.375	.281	.312	.062	.032
	CDV-0711	.687	CD-0711	.656	.625	.437	.343	.375	.062	.032
	CDV-0713	.750	CD-0713	.718	.750	.500	.406	.437	.062	.032
	CDV-0715	.812	CD-0715	.781	.875	.562	.468	.500	.062	.032
	CDV-0717	.875	CD-0717	.843	1.000	.625	.531	.562	.062	.048
.500	CDV-0809	.656	CD-0809	.625	.500	.375	.281	.312	.062	.048
	CDV-0811	.718	CD-0811	.687	.625	.437	.343	.375	.062	.048
	CDV-0813	.781	CD-0813	.750	.750	.500	.406	.437	.062	.048
	CDV-0815	.843	CD-0815	.812	.875	.562	.468	.500	.062	.048
	CDV-0817	.906	CD-0817	.875	1.000	.625	.531	.562	.062	.048
.562	CDV-0909	.687	CD-0909	.656	.500	.375	.281	.312	.062	.048
	CDV-0911	.750	CD-0911	.718	.625	.437	.343	.375	.062	.048
	CDV-0913	.812	CD-0913	.781	.750	.500	.406	.437	.062	.048
	CDV-0915	.875	CD-0915	.843	.875	.562	.468	.500	.062	.048
	CDV-0917	.937	CD-0917	.906	1.000	.625	.531	.562	.062	.048

Inspection Note: Ends of legs may not line up, if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

# DOUBLE TUBE CLAMPS

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; CRS, Per ASTM A 1008 CS Type B  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear



D		L		L	W	S	H	E	F	T
Diameter of Tubes	Part Number	Center To Center	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
		±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.625	CDV-1009	.750	CD-1009	.718	.500	.375	.281	.312	.062	.048
	CDV-1011	.781	CD-1011	.750	.625	.437	.343	.375	.062	.048
	CDV-1013	.843	CD-1013	.812	.750	.500	.406	.437	.062	.048
	CDV-1015	.906	CD-1015	.875	.875	.562	.468	.500	.062	.048
	CDV-1017	.968	CD-1017	.937	1.000	.625	.531	.562	.062	.048
.687	CDV-1111	.812	CD-1111	.781	.625	.437	.343	.375	.062	.048
	CDV-1113	.875	CD-1113	.843	.750	.500	.406	.437	.062	.048
	CDV-1115	.937	CD-1115	.906	.875	.562	.468	.500	.062	.048
	CDV-1117	1.000	CD-1117	.968	1.000	.625	.531	.562	.062	.048
.750	CDV-1211	.843	CD-1211	.812	.625	.437	.343	.375	.062	.048
	CDV-1213	.906	CD-1213	.875	.750	.500	.406	.437	.062	.048
	CDV-1215	.968	CD-1215	.937	.875	.562	.468	.500	.062	.048
	CDV-1217	1.031	CD-1217	1.000	1.000	.625	.531	.562	.062	.048
.812	CDV-1311	.875	CD-1311	.843	.625	.437	.343	.375	.062	.060
	CDV-1313	.937	CD-1313	.906	.750	.500	.406	.437	.062	.060
	CDV-1315	1.000	CD-1315	.968	.875	.562	.468	.500	.062	.060
	CDV-1317	1.062	CD-1317	1.031	1.000	.625	.531	.562	.062	.060
.875	CDV-1411	.906	CD-1411	.875	.625	.437	.343	.375	.062	.060
	CDV-1413	.968	CD-1413	.937	.750	.500	.406	.437	.062	.060
	CDV-1415	1.031	CD-1415	1.000	.875	.562	.468	.500	.062	.060
	CDV-1417	1.093	CD-1417	1.062	1.000	.625	.531	.562	.062	.060
.937	CDV-1511	.937	CD-1511	.906	.625	.437	.343	.375	.062	.060
	CDV-1513	1.000	CD-1513	.968	.750	.500	.406	.437	.062	.060
	CDV-1515	1.062	CD-1515	1.031	.875	.562	.468	.500	.062	.060
	CDV-1517	1.125	CD-1517	1.093	1.000	.625	.531	.562	.062	.060
1.000	CDV-1611	.968	CD-1611	.937	.625	.437	.343	.375	.062	.060
	CDV-1613	1.031	CD-1613	1.000	.750	.500	.406	.437	.062	.060
	CDV-1615	1.093	CD-1615	1.062	.875	.562	.468	.500	.062	.060
	CDV-1617	1.156	CD-1617	1.125	1.000	.625	.531	.562	.062	.060

Inspection Note: Ends of legs may not line up, if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

# DOUBLE TUBE CLAMPS Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Stainless Steel, Per ASTM A240/A666

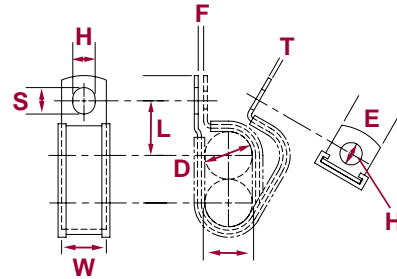
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



CDL  
(D)



D		L	W	S	H	E	F	T
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.250	CDL-0407	.531	.500	.297	.203	.250	.062	.032
	CDL-0409	.593	.500	.375	.281	.312	.062	.032
	CDL-0411	.656	.625	.437	.343	.375	.062	.032
	CDL-0413	.718	.750	.500	.406	.437	.062	.032
.312	CDL-0507	.593	.500	.297	.203	.250	.062	.032
	CDL-0509	.625	.500	.375	.281	.312	.062	.032
	CDL-0511	.687	.625	.437	.343	.375	.062	.032
	CDL-0513	.750	.750	.500	.406	.437	.062	.032
.375	CDL-0607	.625	.500	.297	.203	.250	.062	.032
	CDL-0609	.656	.500	.375	.281	.312	.062	.032
	CDL-0611	.718	.625	.437	.343	.375	.062	.032
	CDL-0613	.781	.750	.500	.406	.437	.062	.032
	CDL-0615	.843	.750	.562	.468	.500	.062	.032
	CDL-0617	.906	1.000	.625	.531	.562	.062	.032
.437	CDL-0707	.656	.500	.297	.203	.250	.062	.032
	CDL-0709	.687	.500	.375	.281	.312	.062	.032
	CDL-0711	.750	.625	.437	.343	.375	.062	.032
	CDL-0713	.812	.750	.500	.406	.437	.062	.032
	CDL-0715	.875	.750	.562	.468	.500	.062	.032
	CDL-0717	.937	1.000	.625	.531	.562	.062	.032
.500	CDL-0807	.687	.500	.297	.203	.250	.062	.032
	CDL-0809	.718	.500	.375	.281	.312	.062	.032
	CDL-0811	.781	.625	.437	.343	.375	.062	.048
	CDL-0813	.843	.750	.500	.406	.437	.062	.048
	CDL-0815	.906	.750	.562	.468	.500	.062	.048
	CDL-0817	.968	1.000	.625	.531	.562	.062	.048
.562	CDL-0907	.718	.500	.297	.203	.250	.062	.032
	CDL-0909	.750	.500	.375	.281	.312	.062	.032
	CDL-0911	.812	.625	.437	.343	.375	.062	.048
	CDL-0913	.875	.750	.500	.406	.437	.062	.048
	CDL-0915	.937	.750	.562	.468	.500	.062	.048
	CDL-0917	1.000	1.000	.625	.531	.562	.062	.048

Inspection Note: Ends of legs may not line up, if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

# DOUBLE TUBE CLAMPS Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Stainless Steel, Per ASTM A240/A666

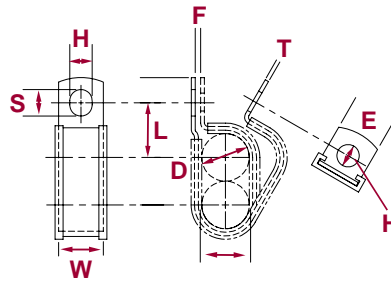
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



CDL  
(D)



D		L	W	S	H	E	F	T
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
.625	CDL-1009	.812	.500	.375	.281	.312	.062	.032
	CDL-1011	.843	.625	.437	.343	.375	.062	.048
	CDL-1013	.906	.750	.500	.406	.437	.062	.048
	CDL-1015	.968	.750	.562	.468	.500	.062	.048
	CDL-1017	1.031	1.000	.625	.531	.562	.062	.048
.687	CDL-1109	.843	.500	.375	.281	.312	.062	.032
	CDL-1111	.875	.625	.437	.343	.375	.062	.048
	CDL-1113	.937	.750	.500	.406	.437	.062	.048
	CDL-1115	1.000	.750	.562	.468	.500	.062	.048
	CDL-1117	1.062	1.000	.625	.531	.562	.062	.048
.750	CDL-1209	.875	.500	.375	.281	.312	.062	.032
	CDL-1211	.906	.625	.437	.343	.375	.062	.048
	CDL-1213	.968	.750	.500	.406	.437	.062	.048
	CDL-1215	1.031	.750	.562	.468	.500	.062	.048
	CDL-1217	1.093	1.000	.625	.531	.562	.062	.048
.812	CDL-1309	.906	.500	.375	.281	.312	.062	.032
	CDL-1311	.937	.625	.437	.343	.375	.062	.048
	CDL-1313	1.000	.750	.500	.406	.437	.062	.048
	CDL-1315	1.062	.750	.562	.468	.500	.062	.048
	CDL-1317	1.125	1.000	.625	.531	.562	.062	.048
.875	CDL-1409	.937	.500	.375	.281	.312	.062	.032
	CDL-1411	.968	.625	.437	.343	.375	.062	.048
	CDL-1413	1.031	.750	.500	.406	.437	.062	.048
	CDL-1415	1.093	.750	.562	.468	.500	.062	.048
	CDL-1417	1.156	1.000	.625	.531	.562	.062	.048
.937	CDL-1509	.968	.500	.375	.281	.312	.062	.032
	CDL-1511	1.000	.625	.437	.343	.375	.062	.048
	CDL-1513	1.062	.750	.500	.406	.437	.062	.048
	CDL-1515	1.125	.750	.562	.468	.500	.062	.048
	CDL-1517	1.187	1.000	.625	.531	.562	.062	.048
1.000	CDL-1609	1.000	.500	.375	.281	.312	.062	.032
	CDL-1611	1.031	.625	.437	.343	.375	.062	.048
	CDL-1613	1.093	.750	.500	.406	.437	.062	.048
	CDL-1615	1.156	.750	.562	.468	.500	.062	.048
	CDL-1617	1.218	1.000	.625	.531	.562	.062	.048

Inspection Note: Ends of legs may not line up, if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

# DOUBLE TUBE CLAMPS Extruded Liner

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M; Stainless Steel, Per ASTM A240/A666

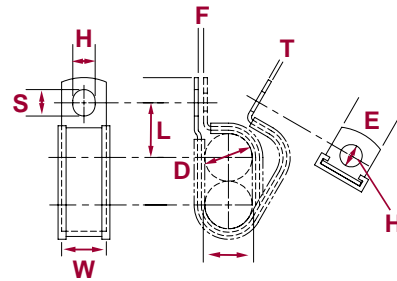
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

**CUSHION:** EPDM per SAE J200/ASTM D2000 BC715A14C12E034

**OPTIONAL CUSHION:** Silicone per AMS3304, SAE J200/ASTM D2000 M2GE706



CDL  
(D)



D		L	W	S	H	E	F	T
Clamping Diameter	Part Number	Center To Center	Width	Slot Length	Hole Diameter	Hole Center To End	Gap	Material Thickness
±.031		±.031	±.010	±.020	±.005	±.015	±.031	±.002
1.062	CDL-1709	1.031	.500	.375	.281	.312	.062	.048
	CDL-1711	1.062	.625	.437	.343	.375	.062	.048
	CDL-1713	1.125	.750	.500	.406	.437	.062	.048
	CDL-1715	1.187	.750	.562	.468	.500	.062	.048
	CDL-1717	1.250	1.000	.625	.531	.562	.062	.048
1.125	CDL-1809	1.062	.500	.375	.281	.312	.062	.048
	CDL-1811	1.093	.625	.437	.343	.375	.062	.048
	CDL-1813	1.156	.750	.500	.406	.437	.062	.048
	CDL-1815	1.218	.750	.562	.468	.500	.062	.048
	CDL-1817	1.281	1.000	.625	.531	.562	.062	.048
1.187	CDL-1909	1.093	.500	.375	.281	.312	.062	.048
	CDL-1911	1.125	.625	.437	.343	.375	.062	.048
	CDL-1913	1.187	.750	.500	.406	.437	.062	.048
	CDL-1915	1.250	.750	.562	.468	.500	.062	.048
	CDL-1917	1.312	1.000	.625	.531	.562	.062	.048
1.250	CDL-2009	1.125	.500	.375	.281	.312	.062	.048
	CDL-2011	1.156	.625	.437	.343	.375	.062	.048
	CDL-2013	1.218	.750	.500	.406	.437	.062	.048
	CDL-2015	1.281	.750	.562	.468	.500	.062	.048
	CDL-2017	1.343	1.000	.625	.531	.562	.062	.048
1.312	CDL-2109	1.156	.500	.375	.281	.312	.062	.048
	CDL-2111	1.187	.625	.437	.343	.375	.062	.048
	CDL-2113	1.250	.750	.500	.406	.437	.062	.048
	CDL-2115	1.312	.750	.562	.468	.500	.062	.048
	CDL-2117	1.375	1.000	.625	.531	.562	.062	.048
1.375	CDL-2209	1.187	.500	.375	.281	.312	.062	.048
	CDL-2211	1.218	.625	.437	.343	.375	.062	.048
	CDL-2213	1.281	.750	.500	.406	.437	.062	.048
	CDL-2215	1.343	.750	.562	.468	.500	.062	.048
	CDL-2217	1.406	1.000	.625	.531	.562	.062	.048
1.437	CDL-2309	1.218	.500	.375	.281	.312	.062	.048
	CDL-2311	1.250	.625	.437	.343	.375	.062	.048
	CDL-2313	1.312	.750	.500	.406	.437	.062	.048
	CDL-2315	1.375	.750	.562	.468	.500	.062	.048
	CDL-2317	1.437	1.000	.625	.531	.562	.062	.048
1.500	CDL-2409	1.250	.500	.375	.281	.312	.062	.048
	CDL-2411	1.281	.625	.437	.343	.375	.062	.048
	CDL-2413	1.343	.750	.500	.406	.437	.062	.048
	CDL-2415	1.406	.750	.562	.468	.500	.062	.048
	CDL-2417	1.468	1.000	.625	.531	.562	.062	.048

Inspection Note: Ends of legs may not line up if clamp is closed around non-rigid tubing or hose. For inspection, close around a hard mandrel.

# FRAME CLIPS

**MATERIAL:** Spring Steel\*

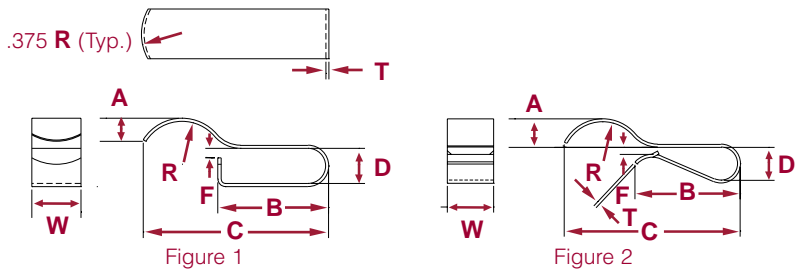
**FINISH:** .00015 Min, Zinc Trivalent Black Chromate, Heat Treat to RC43-48 Blue Spring Temper



FC



FC with barbs



Part Number	Figure	R	A	B	C	D	F	T	W	Use on Metal Thickness	
										Length	Material Thickness
		±.031	±.031	±.031	±.062	±.031	±.020	±.015	±.010	Min	Max
FC-1032	1	.250	.187	.703	1.062	.156	.046	.032	.500	.074	.156
FC-2032	1	.375	.250	.937	1.625	.186	.062	.032	.500	.120	.175
FC-3032	1	.375	.218	.890	1.562	.344	.125	.032	.500	.175	.312
FC-4042	2	.312	.250	1.000	1.531	.187	.100	.042	.500	.074	.187
FC-5042	2	.375	.406	1.062	1.812	.312	.141	.042	.500	.134	.312

\*C-1050 Ann. Spring Steel Heat Treated to Blue Spring Temper.

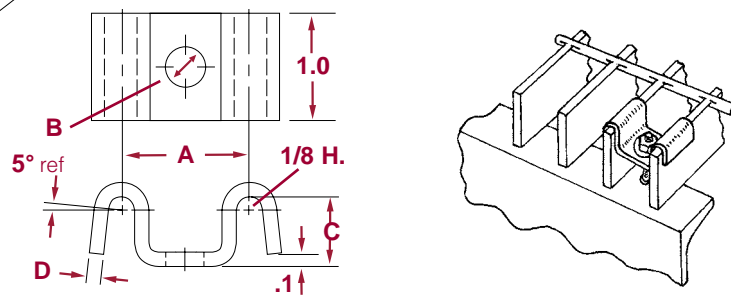
# SADDLE CLIPS For Anchoring Grating

For welded steel and pressure-locked aluminum or steel grating having bearing bars at 15/16" (.937) and 1-3/16" (1.188) centers. May be used on installations where grating is subject to frequent removal.

Bolt holes may be distorted by forming, but .281" diameter pin will pass through .312" hole, and .328" diameter pin will pass through .343" hole.



SC



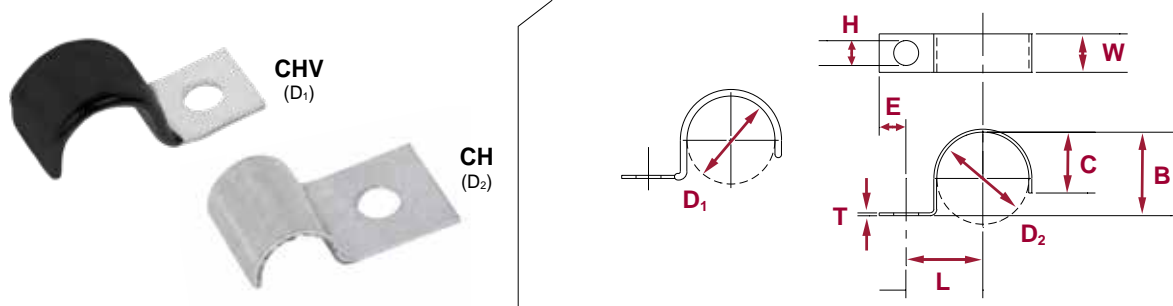
Part Number	Material	Finish	A	B	C	D
			Center To Center	Bolt Hole Diameter	Base To Top Of Radius	Gage
SC-2074-H1	HRP0	Galvanized	.937	.312	.500	.074
SC-1074-H1	HRP0	Galvanized	1.188	.343	.625	.074
SC-1104-H1	HRP0	Galvanized	1.188	.343	.625	.104



# HALF CLIPS

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M or CRS, Per ASTM A 1008 CS Type B  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear



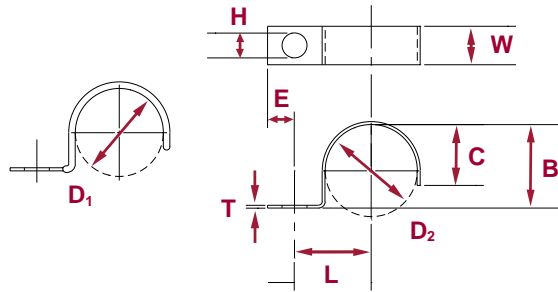
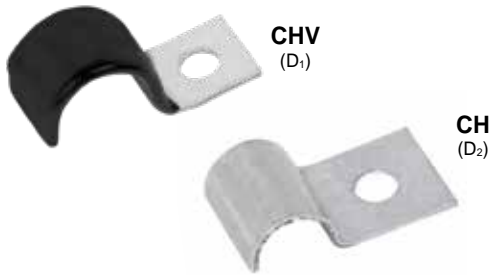
D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	B	C	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Base To Top Of Diameter	Closure	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.015	±.015	±.002
		.125	CH-0204*	.203	.375	.125	.093	.125	.125	.025
			CH-0207	.437	.500	.218	.250	.125	.093	.032
			CH-0209	.437	.500	.281	.250	.125	.093	.032
		.187	CH-0307	.437	.500	.218	.250	.156	.093	.032
			CH-0309	.437	.500	.281	.250	.156	.093	.032
.187	CHV-0407	.250	CH-0407	.437	.500	.218	.250	.188	.156	.032
	CHV-0409		CH-0409	.437	.500	.281	.250	.188	.156	.032
.250	CHV-0507	.312	CH-0507	.500	.500	.218	.250	.250	.188	.048
	CHV-0509		CH-0509	.500	.500	.281	.250	.250	.188	.048
	CHV-0511		CH-0511	.500	.625	.343	.250	.250	.188	.048
.312	CHV-0607	.375	CH-0607	.531	.625	.218	.312	.312	.218	.048
	CHV-0609		CH-0609	.531	.625	.281	.312	.312	.218	.060
	CHV-0611		CH-0611	.687	.625	.343	.343	.375	.218	.060
	CHV-0613		CH-0613	.687	.750	.406	.343	.375	.218	.048
.375	CHV-0707	.437	CH-0707	.562	.625	.218	.312	.375	.281	.048
	CHV-0709		CH-0709	.562	.625	.281	.312	.375	.281	.060
	CHV-0711		CH-0711	.687	.625	.343	.375	.375	.281	.060
	CHV-0713		CH-0713	.687	.750	.406	.375	.375	.281	.060
.437	CHV-0807	.500	CH-0807	.625	.625	.218	.312	.437	.312	.060
	CHV-0809		CH-0809	.625	.625	.281	.312	.437	.312	.060
	CHV-0811		CH-0811	.687	.625	.343	.375	.437	.312	.060
	CHV-0813		CH-0813	.687	.750	.406	.375	.437	.312	.060
.500	CHV-0907	.562	CH-0907	.687	.625	.218	.312	.500	.343	.060
	CHV-0909		CH-0909	.687	.625	.281	.312	.500	.343	.060
	CHV-0911		CH-0911	.750	.625	.343	.375	.500	.343	.060
	CHV-0913		CH-0913	.750	.750	.406	.375	.500	.343	.060
.562	CHV-1007	.625	CH-1007	.750	.625	.218	.312	.562	.437	.060
	CHV-1009		CH-1009	.750	.625	.281	.312	.562	.437	.060
	CHV-1011		CH-1011	.812	.625	.343	.375	.562	.437	.060
	CHV-1013		CH-1013	.812	.750	.406	.375	.562	.437	.060

Except for clamping diameter, dimensions of cushioned and plain parts are identical.  
 Note: Part Numbers shown with asterisk (\*) are only available in Z2.

# HALF CLIPS

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M or CRS, Per ASTM A 1008 CS Type B  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear



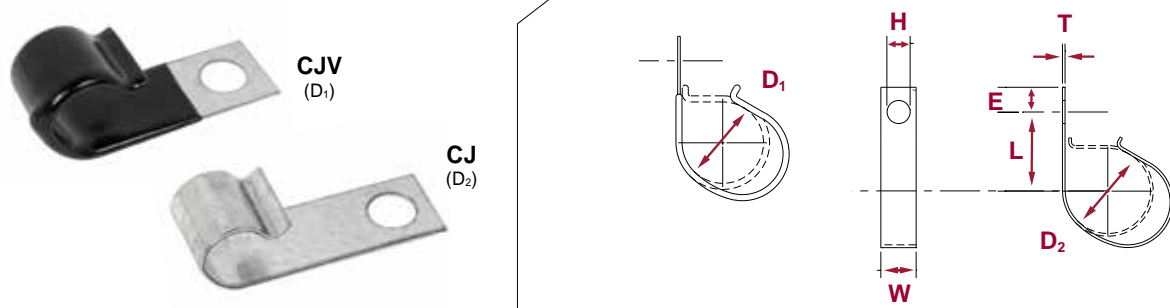
D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	B	C	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Base To Top Of Diameter	Closure	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.015	±.015	±.002
.625	CHV-1107	.687	CH-1107	.812	.625	.218	.312	.625	.406	.060
	CHV-1109		CH-1109	.812	.625	.281	.312	.625	.406	.060
	CHV-1111		CH-1111	.875	.625	.343	.375	.625	.406	.060
	CHV-1113		CH-1113	.875	.750	.406	.375	.625	.406	.060
.687	CHV-1207	.750	CH-1207	.812	.625	.218	.312	.687	.437	.060
	CHV-1209		CH-1209	.812	.625	.281	.312	.687	.437	.060
	CHV-1211		CH-1211	.875	.625	.343	.375	.687	.437	.060
	CHV-1213		CH-1213	.875	.750	.406	.375	.687	.437	.060
.750	CHV-1307	.812	CH-1307	.875	.625	.218	.312	.750	.468	.060
	CHV-1309		CH-1309	.875	.625	.281	.312	.750	.468	.060
	CHV-1311		CH-1311	.937	.625	.343	.375	.750	.468	.060
	CHV-1313		CH-1313	.937	.750	.406	.375	.750	.468	.060
.812	CHV-1409	.875	CH-1409	.937	.750	.281	.375	.812	.531	.060
	CHV-1411		CH-1411	.937	.750	.343	.375	.812	.531	.060
	CHV-1413		CH-1413	.937	.750	.406	.375	.812	.531	.060
.875	CHV-1509	.937	CH-1509	.968	.750	.281	.437	.812	.593	.060
	CHV-1511		CH-1511	.968	.750	.343	.437	.812	.593	.060
	CHV-1513		CH-1513	.968	.750	.406	.437	.812	.593	.060
.937	CHV-1609	1.000	CH-1609	1.000	.750	.281	.437	.937	.625	.060
	CHV-1611		CH-1611	1.000	.750	.343	.437	.937	.625	.060
	CHV-1613		CH-1613	1.000	.750	.406	.437	.937	.625	.060
1.000	CHV-1709	1.062	CH-1709	1.062	.750	.281	.437	1.000	.687	.060
	CHV-1711		CH-1711	1.062	.750	.343	.437	1.000	.687	.060
	CHV-1713		CH-1713	1.062	.750	.406	.437	1.000	.687	.060

Except for clamping diameter, dimensions of cushioned and plain parts are identical.  
 Note: Part Numbers shown with asterisk (\*) are only available in Z2.

# J-CLIPS Open Type

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M or CRS, Per ASTM A 1008 CS Type B  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear

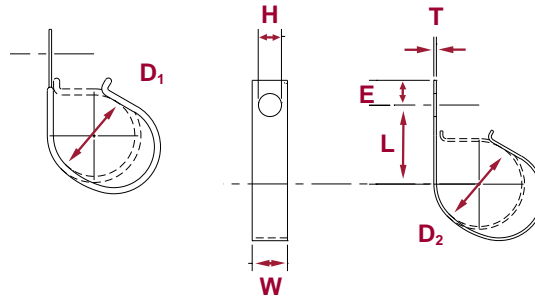
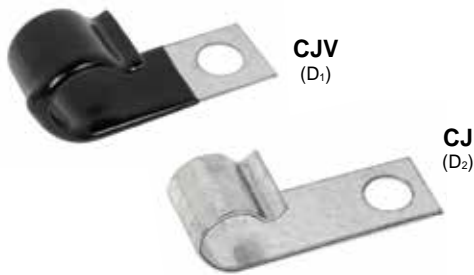


D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.002
.125	CJV-0309	.187	CJ-0309	.718	.500	.281	.250	.025
	CJV-0311		CJ-0311	.750	.625	.343	.312	.025
	CJV-0313		CJ-0313	.781	.625	.406	.375	.025
.187	CJV-0407	.250	CJ-0407	.750	.500	.203	.218	.032
	CJV-0409		CJ-0409	.781	.500	.281	.250	.032
	CJV-0411		CJ-0411	.812	.625	.343	.312	.032
	CJV-0413		CJ-0413	.843	.750	.406	.375	.032
.250	CJV-0507	.312	CJ-0507	.812	.500	.203	.218	.032
	CJV-0509		CJ-0509	.843	.500	.281	.250	.032
	CJV-0511		CJ-0511	.875	.625	.343	.312	.032
	CJV-0513		CJ-0513	.906	.750	.406	.375	.032
.312	CJV-0607	.375	CJ-0607	.875	.500	.203	.218	.032
	CJV-0609		CJ-0609	.906	.500	.281	.250	.032
	CJV-0611		CJ-0611	.937	.625	.343	.312	.032
	CJV-0613		CJ-0613	.968	.750	.406	.375	.032
.375	CJV-0709	.437	CJ-0709	.937	.500	.281	.250	.032
	CJV-0711		CJ-0711	.963	.625	.343	.312	.032
	CJV-0713		CJ-0713	1.000	.750	.406	.375	.032
.437	CJV-0809	.500	CJ-0809	1.000	.500	.281	.250	.032
	CJV-0811		CJ-0811	1.031	.625	.343	.312	.032
	CJV-0813		CJ-0813	1.062	.750	.406	.375	.032
.500	CJV-0909	.562	CJ-0909	1.062	.500	.281	.250	.032
	CJV-0911		CJ-0911	1.093	.625	.343	.312	.032
	CJV-0913		CJ-0913	1.125	.750	.406	.375	.032
.562	CJV-1009	.625	CJ-1009	1.125	.500	.281	.250	.048
	CJV-1011		CJ-1011	1.156	.625	.343	.312	.048
	CJV-1013		CJ-1013	1.187	.750	.406	.375	.048
.625	CJV-1109	.687	CJ-1109	1.187	.500	.281	.250	.048
	CJV-1111		CJ-1111	1.218	.625	.343	.312	.048
	CJV-1113		CJ-1113	1.250	.750	.406	.375	.048
.687	CJV-1209	.750	CJ-1209	1.250	.500	.281	.250	.048
	CJV-1211		CJ-1211	1.281	.625	.343	.312	.048
	CJV-1213		CJ-1213	1.312	.750	.406	.375	.048
.750	CJV-1309	.812	CJ-1309	1.250	.500	.281	.250	.048
	CJV-1311		CJ-1311	1.281	.625	.343	.312	.048
	CJV-1313		CJ-1313	1.312	.750	.406	.375	.048

Except for clamping diameter, dimensions of cushioned and plain parts are identical.

**MATERIAL:** HD Galv Steel, Per ASTM A653/A653M or CRS, Per ASTM A 1008 CS Type B  
**CUSHION:** Black Vinyl, 1/32" Thick

**FINISH:** Z1 - HD Galv Steel, Chem Treated G90  
 Z2 - .0002 min Zinc, Clear



D <sub>1</sub>		D <sub>2</sub>		L	W	H	E	T
Clamping Diameter	Part Number	Clamping Diameter	Part Number	Center To Center	Width	Hole Diameter	Hole Center To End	Material Thickness
±.031		±.015		±.031	±.010	±.005	±.015	±.002
.812	CJV-1409	.875	CJ-1409	1.312	.500	.281	.250	.048
	CJV-1411		CJ-1411	1.343	.625	.343	.312	.048
	CJV-1413		CJ-1413	1.375	.750	.406	.375	.048
.875	CJV-1509	.937	CJ-1509	1.375	.500	.281	.250	.048
	CJV-1511		CJ-1511	1.406	.625	.343	.312	.048
	CJV-1513		CJ-1513	1.437	.750	.406	.375	.048
.937	CJV-1609	1.000	CJ-1609	1.437	.500	.281	.250	.048
	CJV-1611		CJ-1611	1.468	.625	.343	.312	.048
	CJV-1613		CJ-1613	1.500	.750	.406	.375	.048
1.000	CJV-1709	1.062	CJ-1709	1.500	.500	.281	.250	.048
	CJV-1711		CJ-1711	1.531	.625	.343	.312	.048
	CJV-1713		CJ-1713	1.562	.750	.406	.375	.048
1.062	CJV-1809	1.125	CJ-1809	1.562	.500	.281	.250	.048
	CJV-1811		CJ-1811	1.593	.625	.343	.312	.048
	CJV-1813		CJ-1813	1.625	.750	.406	.375	.048
1.125	CJV-1909	1.187	CJ-1909	1.625	.500	.281	.250	.048
	CJV-1911		CJ-1911	1.656	.625	.343	.312	.048
	CJV-1913		CJ-1913	1.687	.750	.406	.375	.048
1.187	CJV-2009	1.250	CJ-2009	1.687	.500	.281	.250	.048
	CJV-2011		CJ-2011	1.718	.625	.343	.312	.048
	CJV-2013		CJ-2013	1.750	.750	.406	.375	.048
1.250	CJV-2109	1.312	CJ-2109	1.750	.500	.281	.250	.048
	CJV-2111		CJ-2111	1.781	.625	.343	.312	.048
	CJV-2113		CJ-2113	1.812	.750	.406	.375	.048
1.312	CJV-2209	1.375	CJ-2209	1.812	.500	.281	.250	.048
	CJV-2211		CJ-2211	1.843	.625	.343	.312	.048
	CJV-2213		CJ-2213	1.875	.750	.406	.375	.048
1.375	CJV-2309	1.437	CJ-2309	1.875	.500	.281	.250	.048
	CJV-2311		CJ-2311	1.906	.625	.343	.312	.048
	CJV-2313		CJ-2313	1.937	.750	.406	.375	.048
1.500	CJV-2509	1.562	CJ-2509	2.000	.500	.281	.250	.048
	CJV-2511		CJ-2511	2.031	.625	.343	.312	.048
	CJV-2513		CJ-2513	2.062	.750	.406	.375	.048
1.625	CJV-2709	1.687	CJ-2709	2.125	.500	.281	.250	.048
	CJV-2711		CJ-2711	2.156	.625	.343	.312	.048
	CJV-2713		CJ-2713	2.187	.750	.406	.375	.048
1.750	CJV-2909	1.812	CJ-2909	2.250	.500	.281	.250	.048
	CJV-2911		CJ-2911	2.281	.625	.343	.312	.048
	CJV-2913		CJ-2913	2.312	.750	.406	.375	.048
2.000	CJV-3309	2.062	CJ-3309	2.500	.500	.281	.250	.048
	CJV-3311		CJ-3311	2.531	.625	.343	.312	.048
	CJV-3313		CJ-3313	2.562	.750	.406	.375	.048

Except for clamping diameter, dimensions of cushioned and plain parts are identical.

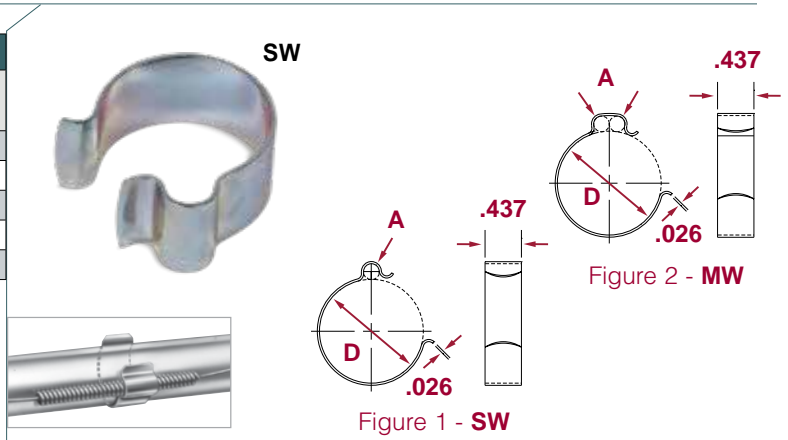
# CONTROL CABLE CLIPS For Casing and Bowden Wire

## Side Mount

**MATERIAL:** Spring Steel\*  
**FINISH:** Zinc Plate, Bake and Clear Chromate

Figure	Part Number	D Tubing Diameter	A Cable Diameter
1	SW-1206H6	3/4	3/16 - 7/32
1	SW-1406H6	7/8	3/16 - 7/32
1	SW-1412H6	7/8	3/8
1	SW-1606H6	1	3/16 - 7/32
2	MW-1408H6	7/8	1/4

\*C-1050 Ann. Spring Steel Heat Treated to Blue Spring Temper.

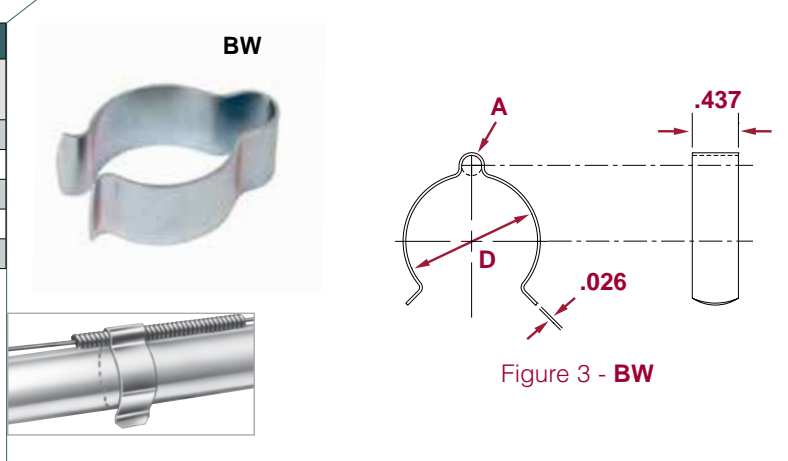


## Center Mount

**MATERIAL:** Spring Steel\*  
**FINISH:** Zinc Plate, Bake and Clear Chromate

Figure	Part Number	D Tubing Diameter	A Cable Diameter
3	BW-1206H6	3/4	3/16 - 7/32
3	BW-1208H6	3/4	1/4
3	BW-1408H6	7/8	1/4
3	BW-1606H6	1	3/16 - 7/32
3	BW-1610H6	1	5/16

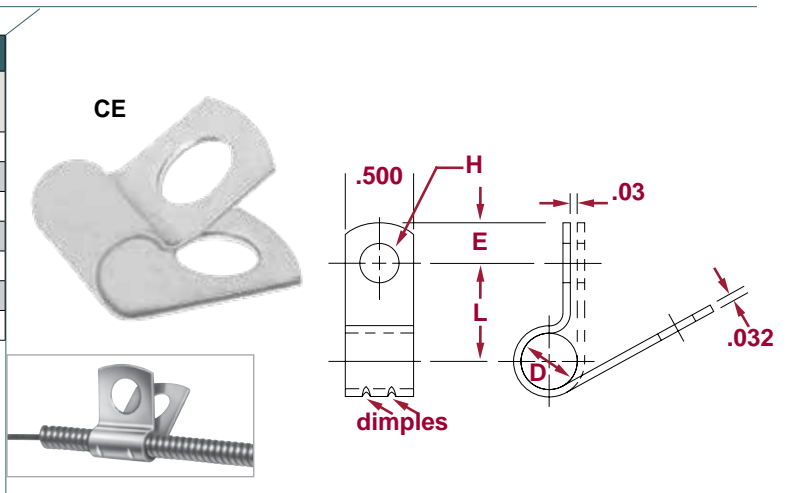
\*C-1050 Ann. Spring Steel Heat Treated to Blue Spring Temper.



## Engine and Deck Mount

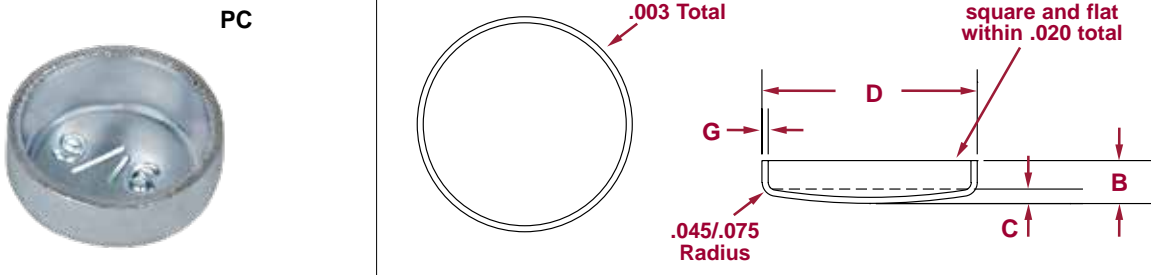
**MATERIAL:** Steel  
**FINISH:** Z1 - HD Galv Steel, Chem Treated G90

Part Number	L Center To Center	D Cable Diameter	H Diameter of Holes	E Hole Center To End
	±.031		±.005	±.015
CE-0613	.375	3/16	.203	.218
CE-0618	.375	3/16	.281	.250
CE-0713	.375	7/32	.203	.218
CE-0718	.375	7/32	.281	.250
CE-0813	.437	1/4	.203	.218
CE-0818	.437	1/4	.281	.250



# CARBON STEEL EXPANSION PLUGS Cup Type – Concave Bottom

**MATERIAL:** CRS, Per ASTM A 1008 CS Type B  
**FINISH:** Z1 - .00015 Min Zinc Clear; Z2 - .0002 Min Zinc Clear



Part Number	Nominal Diameter	Outside Diameter	B Overall Height	C Crown Height	T Steel Thickness	Recommended Hole Diameter
PC-0375	3/8	.385 - .387	.168 - .208	.049 - .075	.042	.379 - .381
PC-0437	7/16	.447 - .449	.168 - .208	.049 - .075	.042	.440 - .442
PC-0500	1/2	.510 - .512	.230 - .270	.049 - .075	.042	.504 - .506
PC-0562	9/16	.572 - .574	.230 - .270	.049 - .075	.042	.566 - .568
PC-0625	5/8	.635 - .637	.230 - .270	.049 - .075	.042	.629 - .631
PC-0687	11/16	.697 - .699	.230 - .270	.049 - .075	.042	.691 - .693
PC-0750	3/4	.760 - .762	.230 - .270	.057 - .083	.048	.754 - .756
PC-0812	13/16	.823 - .825	.230 - .270	.057 - .083	.048	.817 - .819
PC-0875	7/8	.885 - .887	.230 - .270	.057 - .083	.048	.879 - .881
PC-1000	1	1.010 - 1.012	.290 - .330	.067 - .103	.048	1.002 - 1.005
PC-1062	1-1/16	1.072 - 1.074	.355 - .395	.067 - .103	.048	1.064 - 1.067
PC-1125	1-1/8	1.135 - 1.137	.290 - .330	.067 - .103	.048	1.127 - 1.130
PC-1250	1-1/4	1.260 - 1.262	.290 - .330	.067 - .103	.048	1.252 - 1.255
PC-1375	1-3/8	1.386 - 1.388	.290 - .330	.077 - .113	.060	1.378 - 1.381
PC-1500	1-1/2	1.506 - 1.508	.290 - .330	.077 - .113	.060	1.497 - 1.500
PC-1625	1-5/8	1.640 - 1.642	.340 - .380	.077 - .113	.060	1.631 - 1.634
PC-1750	1-3/4	1.760 - 1.762	.340 - .380	.077 - .113	.060	1.751 - 1.754
PC-1875	1-7/8	1.885 - 1.887	.340 - .380	.077 - .113	.060	1.876 - 1.879
PC-2000	2	2.010 - 2.012	.340 - .380	.097 - .153	.060	2.001 - 2.004
PC-2500	2-1/2	2.513 - 2.518	.380 - .440	.111 - .167	.060	2.500 - 2.504
PC-2750	2-3/4	2.760 - 2.763	.380 - .440	.111 - .167	.074	2.750 - 2.754
PC-3000	3	3.010 - 3.013	.480 - .540	.111 - .167	.074	3.000 - 3.004

Dimensions apply before plating.

Expansion Plugs

## Core Hole Preparation and Insertion of Cup-type Core Hole Plugs

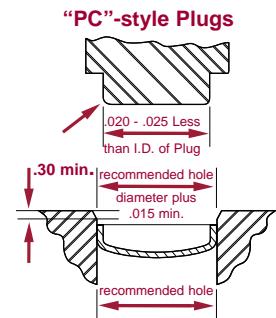
KMC produces a full line of concave-bottom (“PC”) plugs. The “PC” seals by pressure exerted by the concave bottom against the walls of the plug, much in the same manner as a Belleville washer.

**HOLE PREPARATION.** Inside core hole finish should not exceed 100 micro inches. Eccentricity of the hole should not be greater than .002” for plugs under 1”, nor more than .003” for plugs over 1” diameter. With properly prepared holes, plugs can be installed without a sealant. A small amount of lubricant, such as light machine oil with 5% white lead, is desirable to prevent galling.

A 30° x .03” minimum chamfer should be machined on the core hole entry to facilitate plug entry. A .25” minimum radius is preferable to a chamfer, but is seldom used because of tooling cost.

Plugs should be driven square to the hole with the open end approximately .03” below the tangent point of the entry relief. The shoulder on the driver should be bottomed on the casting to control squareness and proper depth. If the surface of the casting is rough or irregular, it should be faced. Plugs should not touch bottom in a counterbored hole.

**DRIVING THE PLUG.** Concave bottom (PC) plugs should be driven on the **inside bottom radius** and **NOT** from the top rim of the cup. The driving arbor should be .015/.025” smaller than the inside diameter of the plug, and have a contact radius of .062”, with a flat bottom to prevent contact with the concave bottom to avoid deforming this surface.





# SPECIFICATIONS

Material Type	Part Number Suffix	Material Specifications		
CRS	None	ASTM A1008 CS Type B		
Stainless Steel	SS	304 Stainless per ASTM A240/A666		
Aluminum	AL	5052 H34 per ASTM B209		
HRPO	None	ASTM A1011 / A1011M		
Cushion Material Specifications	Part Number Suffix	Color	Temperature Range	Application Information
Black Vinyl Plastisol per ASTM D 2287 Type PVC-32474	V	Black	- 30° to 180° F	General purpose proprietary dip coat process. Good resistance to water, detergents, gasoline, oil, alkalis and acid. Not recommended for use with ketones, esters, chlorinated and aromatic solvents.
COL / CDL Series Cushion Material Specifications	Part Number Suffix	Color	Temperature Range	Application Information
Black EPDM per SAE J200, ASTM D2000 BC715A14C12E034	None	Black	- 50° to 350° F	General purpose with superior resistance to heat, weather and ozone. Good resistance to oil and chemicals.
Red/Orange Silicone per SAE AMS3304, ASTM D2000 M2GE506	S	Red/Orange	- 80° to 450° F	Excellent resistance to temperature and ozone.
Plating Description	Part Number Suffix	Plating Specifications		
Hot-Dipped Zinc, Galvanized (except plugs)	Z1	ASTM A653/A653M G90		
.00015 min Zinc, Clear (plugs)	Z1			
.0002 min Zinc, Clear	Z2			

## VINYL PLASTISOL COATING

Vinyl used for parts in this catalog meets the following performance specifications:

ASTM ..... D2287  
SAE ..... J200

**Standard Coating Thickness and Verification:** Normally .032 thick  $\pm$ .015 excluding trailing/leading edges and drip areas of part. Since thickness is related directly to the temperature of the part when dipped, there will be some slight variation in coating thickness between parts made from widely different metal thicknesses.

Verification of clamping diameter is done before and after vinyl coating using a mandrel. In both inspections, the part must "hold" the appropriate mandrel in place and holes must be visually aligned.

**Appearance:** Decorative, improves appearance. Dry and glossy surface. Black vinyl standard.

**Hardness:** Normally 65 to 75 as measured on a Shore Durometer Type "A" on .25" thick sections properly cured. Hardness can be varied with special formulations.

**Tensile Strength:** Approximately 2,000 PSI as measured on a Model 1P-4 Scott tester on properly fused film .01-.02" thick. Elongation 300-350%. Both tensile and elongation can be increased or decreased as required by changing specifications.

**Dielectric Strength:** Approximately 200 volts per mil of coating thickness as measured on properly fused film .03" thick. Formulations that will provide dielectric strength to 700 volts per mil of coating thickness, and vinyls with high arc resistance, can be furnished with special formulations.

**Resistance to Heat and Cold:** Formulations used by KMC for catalog parts do not deteriorate at 180°F for as long as 2,000 hours, and 300°F for over two hours, and will remain flexible to -30°F. Self-extinguishing; will not support combustion. Formulations that withstand higher temperatures available.

**Resistance to Chemical Action:** Resist abrasion and chemical action from water, detergents, gasoline, oil, grease, strong alkalis, acids, and many other substances. Not recommended for use with ketones, esters, chlorinated solvents, and aromatic solvents such as toluol and zylol.

# OUR QUALITY COMMITMENT



The KMC quality system ensures adherence to customer specifications through contract review, advanced quality planning, production part approval processes, and a comprehensive inspection and test program. An active continuous improvement philosophy drives refinement of our products and processes, and improves service to our customers.

Evidence of KMC's commitment to quality shows in our success of continuously meeting and maintaining ISO 9001 current standards. Although some of these certifications are specific to customers in the automotive industry, they signify to all customers that KMC is committed to the highest quality in product engineering and product manufacturing processes and customer service.





***“Pioneers In Industry Standards”***

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