



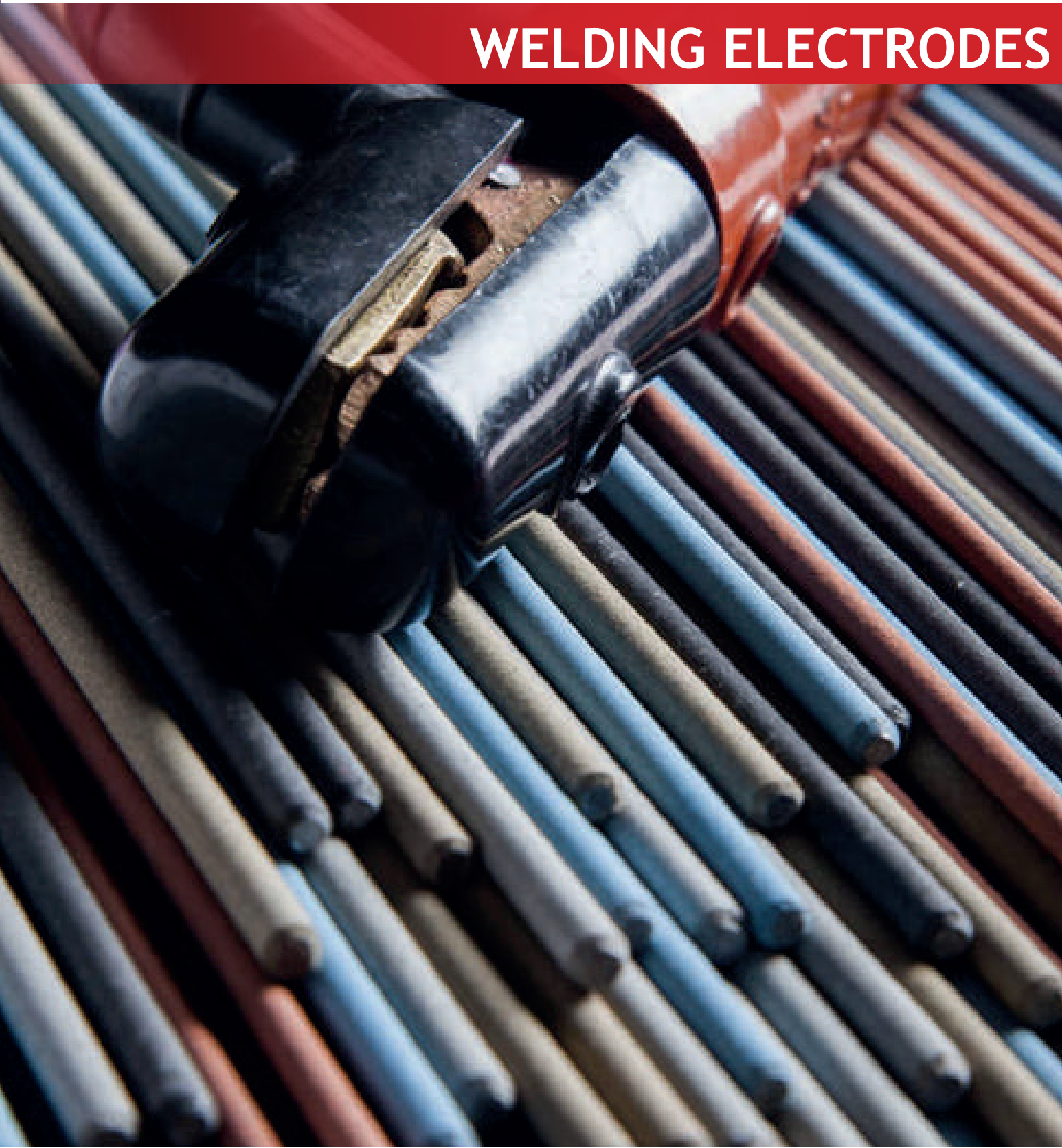
Engineering Services

Tel: +27(0)13 752 5506

Email: sales@nahpets.co.za

www.nahpets.co.za

WELDING ELECTRODES



WELDING ELECTRODES

PREMIUM SUPER 7 E6013 ELECTRODE



Application:

SUPER 7 E6013 is a high quality rutile coated general purpose electrode for welding in all positions. SUPER 7 E6013 has a low spatter and smoke, the initial strike and restrike is excellent. The slag is easily detached from fillet and butt welds, in most cases is self-lifting. The weld appearance is excellent.



Classification:

AWS A5.1 E6013
SABS 455 E4313/0315

Welding Position:



| Chemical Composition | | | | |
|------------------------|------------------|-----------------|------------|-----------|
| C | Mn | Si | P | S |
| 0.05-0.1 | 0.35-0.60 | 0.2-0.5 | 0.025 MAX | 0.025 MAX |
| Mechanical Composition | | | | |
| Yield Strength | Tensile Strength | Charpy at 20 °C | Elongation | |
| 460 Mpa | 480 Mpa | 80 J | 24% | |

PINNACLE CLASS LEADING S PRO ELECTRODE



Application:

S Pro is an extra high quality rutile coated general purpose mild steel electrode. S Pro is a maintenance welding rod for wet, dirty and contaminated surfaces, including grained and structural steels, thin gauge steel plates, tubing, pipes and other sections.



Classification:

AWS A5.1 E6013
EN ISO 2560 B 43 13 A

Welding Position:



| Chemical Composition | | | | |
|-----------------------|------------------|-----------------|------------|----------|
| C | Mn | Si | P | S |
| 0.03-0.08 | 0.40-0.65 | 0.2-0.5 | 0.020 MAX | 0.01 MAX |
| Mechanical Properties | | | | |
| Yield Strength | Tensile Strength | Charpy at 20 °C | Elongation | |
| 480 Mpa | 500 Mpa | 90 J | 28% | |

Made in South Africa by  Pinnacle

WELDING ELECTRODES

CHISA SH E6013 MILD STEEL



An all purpose welding electrode for mild steel which produce a smooth, quiet, medium penetrating arc that is readily maintained with minimal spatter loss. The slag lifts easily, fine rippled bead contour. Ideally suited for general purpose welding, even with low OCV.

Chemical Composition (%)

| C | Mn | Si | S | P | Fe Rem |
|------|------|------|-------|-------|--------|
| 0.08 | 0.45 | 0.18 | 0.012 | 0.014 | |

Applications:

Sheet metal, fence, general light fabrication

Features:

- Conforms to AWS A5.1 E6013
- All positional welding
- Tensile strength up to 450 MPa
- Yield strength up to 460 MPa
- Elongation -25%

| Size (mm) | Welding Current (A) | Code |
|-----------|---------------------|--------------|
| 2.0 | 40-70 | 1kg 1-100119 |
| | | 4kg 1-100124 |
| 2.5 | 60-95 | 1kg 1-100120 |
| | | 5kg 1-100125 |
| 3.2 | 80-120 | 1kg 1-100121 |
| | | 5kg 1-100126 |
| 4.0 | 100-150 | 5kg 1-100127 |
| 5.0 | 140-200 | 5kg 1-100128 |

CITOX E7018-1 LOW HYDROGEN

A high deposition electrode for low and medium carbon steel. It is an efficient low hydrogen electrode with excellent mechanical properties; crack resistance, and x-ray quality welds. This electrode offer a quiet, stable, spatter-free arc.



Chemical Composition (%)

| C | Mn | Si | S | P | Fe Rem |
|------|------|------|-------|-------|--------|
| 0.08 | 1.00 | 0.60 | 0.011 | 0.021 | |

Applications:

Ship building, pressure vessels, boilers, piping, heavy duty equipment

Features:

- Conforms to AWS A5.1 & ASME SFA 5.1 E7018-1
- All positional welding
- Tensile strength up to 560 MPa
- Yield strength up to 480 MPa
- Elongation -29.4%
- Vacuum packed

| Size (mm) | Welding Current (A) | Code |
|-----------|---------------------|----------|
| 2.5 | 65-95 | 1-100201 |
| 3.2 | 90-130 | 1-100202 |
| 4.0 | 130-190 | 1-100203 |
| 5.0 | 190-250 | 1-100204 |

FERROX E7024 IRON POWDER

FERROX is a heavily coated rutile iron powder electrode for high speed welding of H-V fillers and flat butt joints. Has a metal recovery of approximately 160%.



Chemical Composition (%)

| | | | | |
|----------|-----------|-----------|-----------|-----------|
| C - 0.09 | Mn - 0.65 | Si - 0.35 | P - 0.017 | S - 0.008 |
|----------|-----------|-----------|-----------|-----------|

Applications:

Ship building, boilers, heavy duty equipment

Features:

- Conforms to AWS A5.1 & ASME SFA 5.1 E7024
- Tensile strength up to 560 MPa
- Yield strength up to 480 MPa
- Elongation -27%

| Size (mm) | Welding Current (A) | Code |
|-----------|---------------------|----------|
| 3.2 | 120-150 | 1-100301 |
| 4.0 | 160-225 | 1-100302 |
| 5.0 | 220-330 | 1-100303 |

WELDING ELECTRODES

SUPER POWER GOUGE

A special formulated stick electrode for gouge purpose. Produces the most efficient metal removal performance. No air or oxygen required.

Applications:

- Create U-groove for weld joint
- Remove old welds
- Gouge out cracks
- Cleaning and repairing castings
- Remove hard surface material
- Rough machining
- Pierce hole



| Size (mm) | Welding Current (A) | Code |
|-----------|---------------------|----------|
| 3.2 | 170-300 | 1-100410 |
| 4.0 | 225-400 | 1-100411 |

SUPERCLAD 667A

A rutile coated DC electrode for hard surfacing depositing a martensitic weld having a hardness of approximately 50-59 HRC resistance to moderate impact.

Applications:

- Sugar mill roll roughening
- Excavator bucket lips & teeth
- Dragline buckets
- Conveyor screws
- Rock chutes

Features:

- Conforms to DIN 8555 E10-UM-55-GPR
- Hardness 50-59 HRC



| Chemical Composition (%) | | | |
|--------------------------|---------------------|----------|----------|
| C - 3.5 | Mn - 1.5 | Cr - 29 | Si - 0.8 |
| Size (mm) | Welding Current (A) | Code | |
| 3.2 | 110-150 | 1-100420 | |
| 4.0 | 140-180 | 1-100421 | |
| 5.0 | 170-210 | 1-100422 | |

SUPERCLAD 667B

A rutile coated DC electrode specially designed for wear resistant application. Can withstand impact under relatively abrasive conditions.

Applications:

- Earth moving equipment
- Grader blades
- Earth scoops, bucket lips
- Conveyor screws
- Blast hole augers

Features:

- Conforms to DIN 8555 E10-UM-60-GPR
- HARDNESS 55-60 HRC



| Chemical Composition (%) | | | |
|--------------------------|---------------------|----------|-----------|
| C 4.0 | Mn 2.0 | Cr 30 | Si 1.0 |
| Size (mm) | Welding Current (A) | Code | |
| 3.2 | 110 - 150 | 1-100430 | |
| 4.0 | 140 - 180 | 1-100431 | |
| 5.0 | 180 - 240 | 1-100432 | |

WELDING ELECTRODES

SUPERCAST 55

A nickel-iron alloy electrode (AC-DC), general purpose electrode for production, salvage and repair of all cast irons.

Applications:

Suited for joining, filling and buildup of grey and alloyed cast irons, can be used for pump housings, valves, castings, deposits are machinable and have high strength.

Features:

- Conforms to AWS A5.15 ENiFe-CI
- Close colour match
- Good Machinability



| Chemical Composition (%) | | | | |
|--------------------------|---------------------|-----|----------|-----|
| C | Mn | Si | Ni | Cu |
| 2.0 | 2.5 | 4.0 | 55 | 2.5 |
| Size (mm) | Welding Current (A) | | Code | |
| 2.5 | 50-80 | | 1-100501 | |
| 3.2 | 80-120 | | 1-100502 | |
| 4.0 | 110-140 | | 1-100503 | |

SUPERCAST 99

A general purpose, high nickel electrode for production and repair of cast iron.

Applications:

Suitable for buildup, jointing, filling holes, breaks and cracks in all types of cast iron. It has very good out-of-position welding characteristics.

Features:

- Conforms to AWS A5.15 ENi-CI
- Excellent Machinability
- Close colour match



| Chemical Composition (%) | | | | |
|--------------------------|---------------------|-----|----------|-----|
| C | Mn | Si | Ni | Cu |
| 2.0 | 1.0 | 4.0 | 90 | 2.5 |
| Size (mm) | Welding Current (A) | | Code | |
| 2.5 | 30-70 | | 1-100504 | |
| 3.2 | 70-110 | | 1-100505 | |
| 4.0 | 90-130 | | 1-100506 | |

ALUWELD Si5

A 5% silicon aluminium arc welding electrode with self lifting slag. Can be used as brazing alloy.

Applications:

Suitable for arc welding wrought and cast aluminium alloys, alloyed with copper, silicon and magnesium. Also for joining dissimilar grades of aluminium

Features:

- Conforms to AWS A5.3 E4043
- Convenient arc aluminium welding



| Chemical Composition (%) | | | | |
|--------------------------|---------------------|------|----------|-------|
| Si | Mn | Cu | Fe | Mg |
| 5.25 | 0.002 | 0.01 | 0.17 | 0.002 |
| Size (mm) | Welding Current (A) | | Code | |
| 2.5 | 50 - 80 | | 1-100520 | |
| 3.2 | 70 - 120 | | 1-100521 | |
| 4.0 | 110 - 150 | | 1-100522 | |

WELDING ELECTRODES

STAINARC 316L

A low carbon, 19% Cr, 12% Ni and 2.5% Mo, rutile coated electrodes. For welding 316 and 316L grade stainless steel.



Applications:

Used such as high temperature equipment, heat exchanger, chemical storage, tanks, oil refining equipment and pharmaceutical equipment.

Features:

- Conforms to AWS A5.4 E316L-16
- Tensile - 650 MPa, Yield - 440 MPa, Elongation - 35%

| Chemical Composition (%) | | | | | | | |
|--------------------------|-----|---------------------|----|----------|-----|------|------|
| C | Mn | Si | Cr | Ni | Mo | S | P |
| 0.04 | 1.0 | 0.7 | 19 | 12 | 2.5 | 0.02 | 0.03 |
| Size (mm) | | Welding Current (A) | | Code | | | |
| 2.5 | | 50-90 | | 1-100601 | | | |
| 3.2 | | 70-130 | | 1-100602 | | | |
| 4.0 | | 100-170 | | 1-100603 | | | |

STAINARC 308L

A low carbon 19% Cr, 9% Ni rutile coated electrodes for welding grade 304, 304L, 301 and 302 stainless.



Applications:

Used on brewing equipments, vacuum pump spares, dairy equipments, chemical handling equipments and food processing.

Features:

- Conforms to AWS A5.4 E308L-16
- Tensile - 570 MPa, Yield - 380 MPa, Elongation - 40%

| Chemical Composition (%) | | | | | | | |
|--------------------------|-----|---------------------|----|----------|------|------|--|
| C | Mn | Si | Cr | Ni | S | P | |
| 0.03 | 1.0 | 0.7 | 19 | 9.5 | 0.01 | 0.03 | |
| Size (mm) | | Welding Current (A) | | Code | | | |
| 2.5 | | 50-90 | | 1-100604 | | | |
| 3.2 | | 80-130 | | 1-100605 | | | |
| 4.0 | | 100-170 | | 1-100606 | | | |

STAINARC 309L

A low carbon, 23% Cr, 12% Ni rutile coated electrodes for welding corrosion resistant and heat resistant steels of 309 types.



Applications:

Used on furnace parts, aircraft components, heat exchangers and chemical processing equipment. Can be used for welding dissimilar carbon steel to low alloy steel, welding stainless steel to mild steel and a buffer for hard-facing applications.

Features:

- Conforms to AWS A5.4 E309L-16
- Tensile - 650 MPa, Yield - 450 MPa, Elongation - 30%

| Chemical Composition (%) | | | | | | | |
|--------------------------|-----|---------------------|------|----------|------|------|--|
| C | Mn | Si | Cr | Ni | S | P | |
| 0.03 | 1.0 | 0.75 | 23.6 | 12.5 | 0.01 | 0.03 | |
| Size (mm) | | Welding Current (A) | | Code | | | |
| 2.5 | | 50-85 | | 1-100607 | | | |
| 3.2 | | 80-120 | | 1-100608 | | | |
| 4.0 | | 100-150 | | 1-100609 | | | |

WELDING ELECTRODES

STAINARC 312

A rutile coated low carbon electrode of 29% Cr, 9% Ni. An universal electrode designed for welding steels of low weldability and materials of unknown compositions. Welding of dissimilar steel from carbon steel to stainless steel.



Applications:

Weld on dissimilar steels, tool steel, dies and springs.

Features:

- Conforms to AWS A5.4 E312-16
- Tensile - 700 MPa, Yield - 620 MPa, Elongation - 24%
- Light blue coating for unique identification

Chemical Composition (%)

| C | Mn | Si | Cr | Ni | Mo | S | P |
|------|-----|-----|----|----|------|------|------|
| 0.10 | 1.5 | 0.8 | 29 | 9 | 0.15 | 0.02 | 0.02 |

Size (mm) Welding Current (A) Code

| | | |
|-----|---------|----------|
| 2.5 | 45-80 | 1-100613 |
| 3.2 | 75-110 | 1-100614 |
| 4.0 | 110-150 | 1-100615 |

STAINARC 310

A rutile coated electrode of 25% Cr, 20% Ni for all positional welding, used for 310 grade stainless steel.



Applications:

Used on welding of resists scaling in oxidising atmospheres up to 1,100 °C while maintaining joint strength.

Features:

- Conforms to AWS A5.4 E310-16
- Tensile - 650 MPa, Yield - 400 MPa, Elongation - 30%

Chemical Composition (%)

| C | Mn | Si | Cr | Ni | Mo | S | P |
|-----|-----|-----|----|----|-----|------|------|
| 0.1 | 2.0 | 0.7 | 25 | 21 | 0.2 | 0.02 | 0.02 |

Size (mm) Welding Current (A) Code

| | | |
|-----|--------|----------|
| 2.5 | 50-70 | 1-100620 |
| 3.2 | 80-95 | 1-100621 |
| 4.0 | 95-130 | 1-100622 |