

# ***HYPER******ARC***™

**SUPERIOR WELDING ELECTRODES**



**Unimig®**



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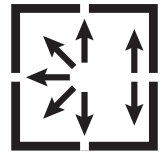
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## HYPERARC™ 6013

### 6013 GENERAL PURPOSE ELECTRODE



#### SUMMARY

- ✓ All positional
- ✓ High penetration and easy direction
- ✓ Easy slag removal
- ✓ Easy arc striking

#### CLASSIFICATION

- ✓ AS/NZS 4855: B E4313A
- ✓ AWS A5.1: E6013

#### APPROVALS

- ✓ Lloyds Register of Shipping
- ✓ ABS

#### DESCRIPTION

The HYPERARC 6013 is a General Purpose Electrode suitable for welding all mild and low alloy steels in all positions. Easy slag removal and easy arc striking make the HYPERARC 6013 the right choice for multiple applications.

#### RECOMMENDED CURRENT

AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	350mm	50-90A
3.2mm	350mm	90-130A
4.0mm	350mm	110-170A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	P	S
0.08	0.39	0.29	0.023	0.01



#### TYPICAL MECHANICAL ANALYSIS

Yield Stress	454 MPa
Tensile Strength	535 MPa
Elongation	27%
Impact Test	53J @ 0°C

#### TYPICAL APPLICATIONS

- ✓ General mild steel fabrication work
- ✓ Repair work, fencing, gates, and balustrading
- ✓ Agricultural machinery
- ✓ Structural and general workshop use

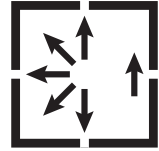
#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	1kg (Handy Pack)	U63001
2.6mm	5kg	U63003
3.2mm	1kg (Handy Pack)	U63002
3.2mm	5kg	U63004
4.0mm	5kg	U63005

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## HYPERARC 16TC™

7016 TWIN-COATED LOW-HYDROGEN ELECTRODE



### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter and easy releasing slag
- ✓ Concentrated arc

### CLASSIFICATION

- ✓ AS/NZS ISO 4855: B E4916 A U H10
- ✓ AWS A5.1: E7016

### APPROVALS

- ✓ Lloyds Register of Shipping
- ✓ ABS
- ✓ DNV

### DESCRIPTION

The HYPERARC 16TC is a Twin Coated 7016 Low Hydrogen electrode. With its all positional capabilities (except vertical down) it is the optimum choice when high quality welding is required.

### RECOMMENDED CURRENT

AC & DC+

### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	350mm	50-90A
3.2mm	350mm	80-130A
4.0mm	400mm	110-180A

### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	P	S
0.060	0.804	0.411	0.023	0.016



### TYPICAL MECHANICAL ANALYSIS

Yield Stress	470 MPa
Tensile Strength	583 MPa
Elongation	29%
Impact Test	93J @ -20°C

### TYPICAL APPLICATIONS

- ✓ Structural Steel Fabrication
- ✓ Pressure Vessel welding
- ✓ Pipe welding
- ✓ Repair work for Agriculture and machinery
- ✓ Earthmoving equipment repairs
- ✓ Layering, "Buttering"

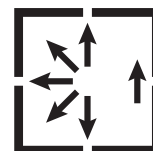
### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	1kg (Handy Pack)	U63006
2.6mm	2kg (Vacuum Seal)	U63008
3.2mm	1kg (Handy Pack)	U63007
3.2mm	2kg (Vacuum Seal)	U63009
4.0mm	2kg (Vacuum Seal)	U63010

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## HYPERARC™ 7018

### 7018 LOW HYDROGEN ELECTRODE



#### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter
- ✓ Concentrated arc

#### CLASSIFICATION

- ✓ AS/NZS 4855: B E 4918 A U H10
- ✓ AWS/ASME SFA5.1: E7018

#### APPROVALS

- ✓ Lloyds Register of Shipping
- ✓ ABS
- ✓ DNV

#### DESCRIPTION

The HYPERARC 7018 is a Hydrogen controlled iron powder electrode. With its all positional capabilities (except vertical down) it is the ideal choice for high deposition welding.

#### RECOMMENDED CURRENT

AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	300mm	50-90A
3.2mm	350mm	80-130A
4.0mm	400mm	110-180A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	P	S
0.04	0.874	0.231	0.023	0.01



#### TYPICAL MECHANICAL ANALYSIS

Yield Stress	483 MPa
Tensile Strength	599 MPa
Elongation	28%
Impact Test	128J @ -40°C

#### TYPICAL APPLICATIONS

- ✓ Structural Steel Fabrication
- ✓ Pressure Vessel welding
- ✓ Repair work for Agriculture and mining machinery
- ✓ Ship building and repairs

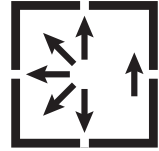
#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	2kg (Vacuum Seal)	U63011
3.2mm	2kg (Vacuum Seal)	U63012
4.0mm	2kg (Vacuum Seal)	U63013

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## HYPERARC™ 309L

### 309L STAINLESS STEEL ELECTRODE



#### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter
- ✓ Concentrated arc

#### CLASSIFICATION

- ✓ AS/NZS 4854: ES309L-16
- ✓ AWS/ASME SFA5.4: E309L-16

#### DESCRIPTION

The HYPERARC 309L is a Stainless Steel Electrode specifically designed for welding 309 and 309L stainless steels as well as joining dissimilar metals such as mild steel to stainless steel. It is also used in joining dissimilar stainless steels in the 300 series.

#### RECOMMENDED CURRENT

AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	300mm	50-90A
3.2mm	350mm	85-120A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	P	S
0.044	0.925	0.737	0.033	0.021
Ni	Cr	Mo	Cu	
12.9	23.3	0.079	0.235	



#### TYPICAL MECHANICAL ANALYSIS

Yield Stress	480 MPa
Tensile Strength	560 MPa
Elongation	38%

#### TYPICAL APPLICATIONS

- ✓ Welding mild steels to stainless steels
- ✓ Buffering prior to hard facing
- ✓ Welding dissimilar 300 series stainless steels as well as some 400 series

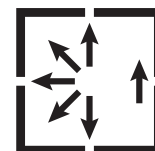
#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	2kg (Vacuum Seal)	U63014
3.2mm	2kg (Vacuum Seal)	U63015

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## HYPERARC™ 312L

### 312L STAINLESS STEEL ELECTRODE



#### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter
- ✓ Concentrated arc

#### CLASSIFICATION

- ✓ AS/NZS 4854: ES312L-16
- ✓ AWS/ASME SFA5.4: E312-16

#### DESCRIPTION

The HYPERARC Dissimilar Metals 312L is a Stainless Steel electrode used for welding dissimilar or steels of unknown composition.

#### RECOMMENDED CURRENT

AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	300mm	60-80A
3.2mm	350mm	75-115A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	P	S
0.092	0.915	0.849	0.025	0.037
Ni	Cr	Mo	Cu	
9.9	29	0.052	0.2	



#### TYPICAL MECHANICAL ANALYSIS

Yield Stress	655 MPa
Tensile Strength	750 MPa
Elongation	23%

#### TYPICAL APPLICATIONS

- ✓ Welding mild steels to stainless steels
- ✓ Used for buffering prior to hard facing
- ✓ Repairs and Maintenance

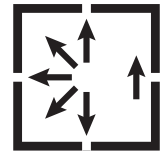
#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	1kg (Handy Pack)	U63017
2.6mm	2kg (Vacuum Seal)	U63019
3.2mm	1kg (Handy Pack)	U63018
3.2mm	2kg (Vacuum Seal)	U63020

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## HYPERARC™ 316L

### 316L STAINLESS STEEL ELECTRODE



#### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter
- ✓ Concentrated arc

#### CLASSIFICATION

- ✓ AS/NZS 4854: ES316L-16
- ✓ AWS/ASME SFA5.4: E316L-16

#### DESCRIPTION

The HYPERARC 316L is a Stainless Steel electrode specifically used for welding 316 and 316L as well as other 300 series stainless steels.

#### RECOMMENDED CURRENT

AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	300mm	50-90A
3.2mm	350mm	70-110A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	P	S
0.024	0.856	0.84	0.037	0.012
Ni	Cr	Mo	Cu	
11.4	18.2	2.46	0.2	



#### TYPICAL MECHANICAL ANALYSIS

Yield Stress	502 MPa
Tensile Strength	645 MPa
Elongation	32%
Impact Test	63J @ -20°C

#### TYPICAL APPLICATIONS

- ✓ Stainless Steel fabrication
- ✓ Welding 300 series stainless steels
- ✓ Suitable to weld 301, 302, 303, 304 and 304L

#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	1kg (Handy Pack)	U63021
2.6mm	2kg (Vacuum Seal)	U63023
3.2mm	1kg (Handy Pack)	U63022
3.2mm	2kg (Vacuum Seal)	U63024

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## HYPERARC™ NI 55

### NI 55 CAST IRON ELECTRODE

#### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter
- ✓ Concentrated arc

#### CLASSIFICATION

- ✓ AWS A5.15 : ENiFe-CI

#### DESCRIPTION

The HYPERARC Ni 55 is a Graphite coated Cast Iron electrode featuring 55% Nickel and 45% Iron.

#### RECOMMENDED CURRENT

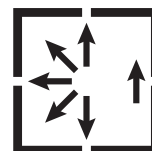
AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	350mm	60-90A
3.2mm	350mm	80-120A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	Ni	Fe
0.39	0.55	0.82	55	Bal



#### TYPICAL MECHANICAL ANALYSIS

Tensile Strength 450 MPa

#### TYPICAL APPLICATIONS

- ✓ Suitable for repairing standard grades of Cast Iron
- ✓ Repairs to machinery and cast parts
- ✓ Repairing gears, pipes and machinery

#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	1kg (Handy Pack)	U63028
3.2mm	1kg (Handy Pack)	U63029

## HYPERARC™ NI 98

### NI 98 CAST IRON ELECTRODE

#### SUMMARY

- ✓ Excellent arc stability
- ✓ High penetration
- ✓ Less spatter
- ✓ Concentrated arc

#### CLASSIFICATION

- ✓ AWS A5.15 : ENi-CI

#### DESCRIPTION

The HYPERARC Ni 98 is a Graphite coated Cast Iron electrode featuring 98% Nickel.

#### RECOMMENDED CURRENT

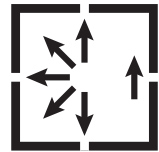
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#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
2.6mm	350mm	50-80A
3.2mm	350mm	80-110A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	Ni	Fe
0.43	0.165	0.038	98	Bal



#### TYPICAL MECHANICAL ANALYSIS

Tensile Strength 350 MPa

#### TYPICAL APPLICATIONS

- ✓ Suitable for repairing standard grades of Cast Iron
- ✓ Repairs to machinery and cast parts
- ✓ Repairing engine blocks, housings, pulleys

#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
2.6mm	1kg (Handy Pack)	U63026
3.2mm	1kg (Handy Pack)	U63027

## HYPERARC™ 531

### 531 HARD FACING ELECTRODE

#### SUMMARY

- ✓ Heavy abrasion, moderate impact
- ✓ Non machinable, grind only
- ✓ Easy strike and re strike

#### CLASSIFICATION

- ✓ DIN 8555/E 2-UM-55

#### DESCRIPTION

HYPERARC 531 Hard Facing Electrodes are a heavy abrasion moderate impact electrode. The hard facing layers the electrode produces have a very smooth finish and they are only machinable by grinding.

#### RECOMMENDED CURRENT

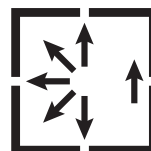
AC & DC+

#### OPERATING DATA

ELECTRODE SIZE (MM)	ELECTRODE LENGTH (MM)	CURRENT RANGE
3.2mm	350mm	90-140A

#### TYPICAL CHEMICAL COMPOSITION (%)

C	Mn	Si	Ni	Fe
0.56	0.98	1.10	0.031	Bal



#### TYPICAL MECHANICAL ANALYSIS

Hardness 54.0 HRc

#### TYPICAL APPLICATIONS

- ✓ Surfacing worn parts of civil engineering
- ✓ Surfacing heavy machinery
- ✓ Provide the hardness of 55-HRC
- ✓ Non-machinable

#### PACKAGING INFO

ELECTRODE SIZE (MM)	WEIGHT (KG)	SKU
3.2mm	1kg (Handy Pack)	U63025





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