MWA

INTERNATIONAL

Welding Electrodes

Range & Ordering Guide

British-made electrodes for fabrication, specialist joining, maintenance and repair.



Find Your Material or Application

General Fabrication	02	Hardfacing & Build-Up	16
Mild Steel & Low Hydrogen	02	Cobalt Overlays	17
High Strength & Pressure Steel	03	Tool & Die Repair	18
Stainless Steel	06	Aluminium	19
Nickel Alloys	10	Copper & Bronze	20
Special Steels & Repairs	13	Arc Cutting & Gouging	20
Cast Iron Repair	15		

Specify the Repair Before the Electrode

For worn or cracked parts, give the parent metal, service conditions and machining needs. For coded work, quote the classification and certificate required by the procedure.

Request a Quote

Give the full grade reference, diameter and quantity. Ask about pack formats, including Vac-Pac for selected grades.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

GENERAL FABRICATION

Select a rutile electrode for controllable workshop welding. Check position, surface conditions and current for each grade.

E6013LF

E6013 · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Fine Steel

E6013 · DC+ or AC

For positional welding within the stated procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Super Steel

E6013 · DC+ or AC

For positional welding within the stated procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Super Steel VDH

E6013 · DC+ or AC

Suitable where the procedure specifies vertical-down welding.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Trade Steel

For compatible workshop steel fabrication and repair.

Mac Nil Sil

For compatible workshop steel fabrication and repair.

MILD STEEL & LOW HYDROGEN

Match the specified strength, impact properties and hydrogen classification for structural or pressure work.

Mac Trode E6716

E7016 · DC+ or AC

Match the required weld-metal strength and procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6718

E7018 · DC+ or AC

Low-hydrogen structural fabrication to the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6718-A1

E7018-A1 · DC+ or AC

High-deposition grade for productive runs where the procedure permits.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6718-G

E7018-G · DC+ or AC

For compatible steel exposed to atmospheric corrosion.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6718-M

E7018-M · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6724

E7024 · DC+ or AC

High-deposition grade for flat and horizontal production work.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

MILD STEEL & LOW HYDROGEN

Match the specified strength, impact properties and hydrogen classification for structural or pressure work.

Mac Trode E6728

E7028 · DC+ or AC

Match the required weld-metal strength and procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm



Keep The Specification With The Order

For structural or pressure work, send the required classification, parent steel, welding position and certificate requirements. Include the diameter and quantity so we can quote the correct grade and pack.

HIGH STRENGTH & PRESSURE STEEL

Match the parent steel and service temperature. Use the specified grade for creep, weathering and low-temperature applications.

Mac Trode E6813-B2

E8013-B2 · DC (–) or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6815-B6

E8015-B6 · DC+ or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6816-B2

E8016-B2 · DC+ or AC

For compatible boiler, steam or pressure equipment steels.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6816-G

E8016-G · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6818-B2

E8018-B2 · DC+ or AC

For compatible boiler, steam or pressure equipment steels.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6818-C1

E8018-C1 · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

High Strength & Pressure Steel

Match the parent steel and service temperature. Use the specified grade for creep, weathering and low-temperature applications.

Mac Trode E6818-C2

E8018-C2 · DC+ or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6818-C3

E8018-C3 · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6818-G

E8018-G · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6818-W2

E8018-W2 · DC+ or AC

For compatible steel exposed to atmospheric corrosion.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6915-B9

E9015-B9 · DC+ or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6916-B9

E9016-B9 · DC+ or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6916-G

E9016-G · DC (–) or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6918-B3

E9018-B3 · DC+ or AC

For compatible boiler, steam or pressure equipment steels.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6918-B9

E9018-B9 · DC+ or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6918-D1

E9018-D1 · DC+ or AC

Match the specified low-alloy steel and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6918-G

E9018-G · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61018-D2

E10018-D2 · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

High Strength & Pressure Steel

Match the parent steel and service temperature. Use the specified grade for creep, weathering and low-temperature applications.

Mac Trode E61018-G

E10018-G · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61116-G

E11016-G · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61118-G

E11018-G · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61118-M

E11018-M · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61218-G

E12018-G · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61218-M

DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61418-G

DC(+)

Low-hydrogen choice for compatible steels and specified handling.

Ø 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61418-M

DC(+)

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode Rail Rod

E12016-G · DC+ or AC

High-deposition grade for productive runs where the procedure permits.

Ø 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E61618 G

Match the specified low-alloy steel and service conditions.



Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Stainless Steel

Select by stainless grade and service. Check the coating type separately, especially where access or position dictates the choice.

Mac Stain E100 (-15)

E318-15

Match the stainless grade, service and coating classification.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100H (-15)

E316H-15 · DC+

For positional welding within the stated procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100 (-17)

E318-17 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100H (-16)

E316H-16 · DC+ or AC

For positional welding within the stated procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100 ELC (-15)

E316L-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100L CF

E316L-16 · DC+ or AC

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100 ELC (-16)

E316L-16 · DC+ or AC

Suitable where the procedure specifies vertical-down welding.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100 Urea

DC+

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100 ELC (17)

E316L-17 · DC+ or AC

Suitable where the procedure specifies vertical-down welding.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101 (-15)

E347-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E100 ELC NF

E316LMN-16 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101 (-16)

E347-16 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Stainless Steel

Select by stainless grade and service. Check the coating type separately, especially where access or position dictates the choice.

Mac Stain E101CF (-15)

E308H-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101CF (-16)

E308H-16 · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101 ELC (-15)

E308L-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101 ELC (-16)

E308L-16 · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101 ELC (-17)

E308L-17 · DC+ or AC

For work with specified low-temperature impact requirements.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101MO

E308MO-16 · DC+ or AC

For positional welding within the stated procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E102 (-15)

E310-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Stain E102 (-16)

E310-16 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Stain E102 (-17)

E310-17 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Stain E102 EHC

E310H-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E102MO

E310MO-16 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Stain E103CF

E309H-16 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Stainless Steel

Select by stainless grade and service. Check the coating type separately, especially where access or position dictates the choice.

Mac Stain E103L (-15)

E309L-15 · DC+

Match the stainless grade, service and coating classification.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E103L (-16)

E309L-16 · DC+ or AC

For specified dissimilar joints. Check dilution and service conditions.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Stain E103L (-17)

E309L-17 · DC+ or AC

For specified dissimilar joints. Check dilution and service conditions.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Stain E103MO

E309LMO-16 · DC+ or AC

For specified dissimilar joints. Check dilution and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E104

E309MO-26 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm

Mac Stain E105

E317-17 · DC+ or AC

Match the stainless grade, service and coating classification.

Ø 3.25mm, 4.00mm, 5.00mm

Mac Stain E107

DC+ or AC

Match the stainless grade, service and coating classification.

Ø 3.25mm, 4.00mm, 5.00mm

Mac Stain E108 (-15)

E16.8.2-15 · DC+ or AC

For compatible boiler, steam or pressure equipment steels.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E108 (-17)

E16.8.2-17 · DC+ or AC

For compatible boiler, steam or pressure equipment steels.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E120

DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E120CU

E2553-16 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E122 (-15)

E2209-15 · DC+

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Stainless Steel

Select by stainless grade and service. Check the coating type separately, especially where access or position dictates the choice.

Mac Stain E122 (-16)

E2209-16 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E124 (-15)

E2595-15 · DC+

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E124 (-16)

E2595-16 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E125 (-15)

E2594-15 · DC+

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E125 (-16)

E2594-16 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Stain E101H

Match the stainless grade, service and coating classification.

Mac Stain E102CB

Match the stainless grade, service and coating classification.

Mac Stain E100 ELC HR

Match the stainless grade, service and coating classification.

Mac Stain E100 Urea B

Match the stainless grade, service and coating classification.

Mac Stain E122B

Match the stainless grade, service and coating classification.

Mac Stain E125B

Match the stainless grade, service and coating classification.

Mac Stain E102L Mo 15

Match the stainless grade, service and coating classification.

Mac Stain E102S

Match the stainless grade, service and coating classification.

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Nickel Alloys

Match the parent alloy and service conditions. The range covers nickel, nickel-copper, Ni-Cr-Fe and Ni-Cr-Mo deposits.

Mac Nicro E200

ENI-1 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E201

ENICRFE-1 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E202

ENICRFE-2 · DC+

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E203

ENICRFE-3 · DC+

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E203 MOD

ENICRFE-3 · DC+

Suitable where the procedure specifies vertical-down welding.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E203B

ENICRFE-3 · DC+

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E204

ENICRFE-7 · DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E206

ENICU-B · DC+ or AC

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E207

ENICU-7 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E210

ENICRFE-15 · DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E211

ENICRMO-1 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E212

ENICRMO-2 · DC+

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Nickel Alloys

Match the parent alloy and service conditions. The range covers nickel, nickel-copper, Ni-Cr-Fe and Ni-Cr-Mo deposits.

Mac Nicro E213

ENICRMO-3 · DC+

For work with specified low-temperature impact requirements.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E213B

ENICRMO-3 · DC+

For specified 904L-type corrosion-resistant stainless.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E214

ENICRMO-4 · DC+

For specified joints and overlays involving Alloy C-276.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E215

ENICRMO-5 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E215HR

ENICRMO-5 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E217

ENICRMO-7 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E218

E385-16 · DC+ or AC

For specified 904L-type corrosion-resistant stainless.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E220NB

ENICR-4 · DC+ or AC

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E221

ENICRCOMO-1 · DC+

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E222MN

DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E222NB

DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E224MN

DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Nickel Alloys

Match the parent alloy and service conditions. The range covers nickel, nickel-copper, Ni-Cr-Fe and Ni-Cr-Mo deposits.

Mac Nicro E224NB

DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E225NB

DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E225W

DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E227

E320LR-16 · DC+

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E228

DC+ or AC

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Nicro E230

E383-16 · DC+ or AC

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E231

DC+ or AC

High-deposition grade for productive runs where the procedure permits.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E233

ENICRMO-10 · DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E233H

DC+

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E234

ENICRMO-13 · DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E235

ENICRMO-14 · DC+

For specified joints and overlays involving Alloy C-276.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Nicro E23718

E330-16 · DC+ or AC

Use for specified nickel alloy joining, dissimilar welding or overlay.

Ø 2.50mm, 3.25mm, 4.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Special Steels & Repairs

For difficult steels, dissimilar joints and overlays. Identify both parent metals and the failure mechanism before choosing a grade.

Mac Trode E64W

DC+

Match the grade to the parent steel and repair procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E66

E312-17

High-alloy repair electrode for difficult steels and dissimilar joints.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E66S

E312-26 · DC+

For specified dissimilar joints. Check dilution and service conditions.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E66V

E312-17 · DC+

Suitable where the procedure specifies vertical-down welding.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E606

E312-17 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E616

E312-17 · DC+ or AC

For compatible duplex stainless steels under the specified procedure.

Ø 1.60mm, 2.00mm, 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E630

E307-17 · DC+ or AC

For build-up on compatible substrates ahead of machining or final surfacing.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E630S

E307-26 · DC+ or AC

For build-up on compatible substrates ahead of machining or final surfacing.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E631

DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6130

DC+ or AC

High-deposition grade for productive runs where the procedure permits.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6410 (-15)

E410-15 · DC+

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Trode E6410 (-16)

E410-16 · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Special Steels & Repairs

For difficult steels, dissimilar joints and overlays. Identify both parent metals and the failure mechanism before choosing a grade.

Mac Trode E6410HR

E410-26 · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Trode E6410NM

E410NIMO-16 · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Trode E6412

DC+ or AC

Match the grade to the parent steel and repair procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Trode E6430

E430-16 · DC+ or AC

For compatible boiler, steam or pressure equipment steels.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Trode E6502

E8018-B6 · DC+

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6505

E8015-B8 · DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6509W

DC+ or AC

For matching Grade 91 creep-resistant steel.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Trode E6630

E630-16 · DC+ or AC

Low-hydrogen choice for compatible steels and specified handling.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Trode E63000

Match the grade to the parent steel and repair procedure.

Mac Trode E6410 NM HR

Match the grade to the parent steel and repair procedure.

Mac Trode E6410B

Match the grade to the parent steel and repair procedure.

Mac Trode E6430 NM

Match the grade to the parent steel and repair procedure.

Mac Trode E6505 Sb Free

Match the grade to the parent steel and repair procedure.

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

SPECIAL STEELS & REPAIRS

For difficult steels, dissimilar joints and overlays. Identify both parent metals and the failure mechanism before choosing a grade.

Mac Trode E6610

Match the grade to the parent steel and repair procedure.

Mac Trode E62000

Match the grade to the parent steel and repair procedure.



Start With The Casting

Send the casting type or material grade, a photograph of the damaged area, its thickness and whether the repair needs machining. This helps us select the electrode and the repair approach with you.

CAST IRON REPAIR

Choose by casting type and the required machinability. Follow the procedure for heat input, short runs and cooling.

Mac Cast E405

ENI-CL · DC+ or AC

For suitable cast-iron repairs requiring a nickel-rich deposit.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Cast E406

ENI-CI · DC+ or AC

For build-up on compatible substrates ahead of machining or final surfacing.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Cast E407

ENIFE-CI · DC+ or AC

For compatible casting repair. Check machinability and heat input.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Cast E407S

ENIFE-CI · DC+ or AC

For compatible casting repair. Check machinability and heat input.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Cast E409

ENI-CI · DC+ or AC

For compatible casting repair. Check machinability and heat input.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Cast E410

DC+ or AC

For compatible casting repair. Check machinability and heat input.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

CAST IRON REPAIR

Choose by casting type and the required machinability. Follow the procedure for heat input, short runs and cooling.

Mac Cast E411

DC+ or AC

For build-up on compatible substrates ahead of machining or final surfacing.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm



Order The Complete Grade Reference

MWA grades cover different deposit types and repair duties. Give us the full Mac Cast reference, diameter and quantity, together with the casting and machining requirements.

HARDFACING & BUILD-UP

Separate mineral abrasion from impact or metal-to-metal wear. Check whether the part needs a machinable build-up or buffer before the final deposit.

Mac Hard E301

DC+ or AC

For positional welding within the stated procedure.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Hard E304

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Hard E305

DC+ or AC

For specified components subject to galling or metal-to-metal wear.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Hard E306

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 3.25mm, 4.00mm, 5.00mm

Mac Hard E307

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 3.25mm

Mac Hard E308

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

HARDFACING & BUILD-UP

Separate mineral abrasion from impact or metal-to-metal wear. Check whether the part needs a machinable build-up or buffer before the final deposit.

Mac Hard E335T

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 6.00mm, 8.00mm

Mac Tungsten E375

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 6.00mm

Mac Hard E304B

Choose by wear mechanism, hardness and impact duty.

Mac Hard E30618

Choose by wear mechanism, hardness and impact duty.

Mac Tungsten E380

Choose by wear mechanism, hardness and impact duty.



COBALT OVERLAYS

For specified hot wear, galling, corrosion and erosion applications. Choose the deposit by the service conditions.

Mac Hica E3071

ECOCR-C

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Hica E3072

ECOCR-A

For resurfacing compatible cutting edges and tooling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Hica E3073

ECOCR-B

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Hica E3074

ECOCR-E

For resurfacing compatible cutting edges and tooling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Hica E3075

ECOCR-E

For specified hot-work tooling and die repairs.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Hica E3075 HR

ECOCR-E · DC+ or AC

High-deposition grade for productive runs where the procedure permits.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

COBALT OVERLAYS

For specified hot wear, galling, corrosion and erosion applications. Choose the deposit by the service conditions.

Mac Hica E3076

DC+ or AC

For specified components subject to galling or metal-to-metal wear.

Ø 2.50mm, 3.25mm, 4.00mm



Describe The Wear Mechanism

Tell us whether the part sees abrasion, impact, galling or hot wear. Include the parent material, operating temperature and any machining or heat-treatment requirements. The repair needs to suit the service, not just the target hardness.

TOOL & DIE REPAIR

Match the die or tool steel, operating temperature, hardness target and subsequent heat treatment.

Mac Tool E3042 (-G2)

DC+ or AC

For resurfacing compatible cutting edges and tooling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Tool E3043 (-G3)

DC+ or AC

For resurfacing compatible cutting edges and tooling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Tool E3044 (-G4)

DC+ or AC

For resurfacing compatible cutting edges and tooling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac HSS E3062

EFE5-B · DC+ or AC

For resurfacing compatible cutting edges and tooling.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Tool E3064

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 3.25mm, 4.00mm, 5.00mm

Mac Tool E3065

DC+ or AC

For specified abrasive-wear overlays. Match the impact duty to the grade.

Ø 3.25mm, 4.00mm, 5.00mm

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

TOOL & DIE REPAIR

Match the die or tool steel, operating temperature, hardness target and subsequent heat treatment.

Mac Tool E3067

DC+ or AC

For specified hot-work tooling and die repairs.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Tool E3068

DC+ or AC

For repair or build-up on compatible tooling and dies.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm, 6.00mm

Mac Tool E3069

DC+ or AC

For repair or build-up on compatible tooling and dies.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm



ALUMINIUM

Coated aluminium-silicon electrodes for compatible wrought alloy and cast repair work. Match the silicon level to the parent alloy.

Mac Alum E95

E4043 · DC(+)

For specified wrought aluminium-silicon alloys and commercially pure aluminium.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Alum E97

E4047 · DC(+)

High-silicon option for compatible cast aluminium and casting defect repairs.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm



Tool & Die Enquiries

Give us the tool steel, service temperature, damaged area and final hardness or machining requirement.

Aluminium Enquiries

Send the parent alloy if known, whether it is cast or wrought, the thickness and the purpose of the repair.

Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content

GRADE REFERENCES & TECHNICAL DATA

Electrode Selection

COPPER & BRONZE

For joining and overlays on compatible copper alloys. Choose by the alloy and the duty of the rebuilt surface.

Mac Bronze E808

ECUSN-C · DC+ or AC

Build up compatible bearings, bushes, impellers and valve seats with a tin-bronze deposit.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Bronze E809

ECUSN-A · DC(+)

Aluminium-bronze joining and overlays on compatible components.

Ø 2.50mm, 3.25mm, 4.00mm

Mac Bronze E810

ECUAL-A2 · DC(+)

For specified aluminium-bronze joining and surfacing.

Ø 2.50mm, 3.25mm, 4.00mm

Specify The Alloy And The Duty

For copper and bronze work, include the parent alloy and whether you are joining, rebuilding or surfacing the component.



ARC CUTTING & GOUGING

For metal removal and joint preparation. Select the electrode by operation and parent material.

Mac Groove E71

DC+ or AC

For arc gouging and preparing grooves.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Groove E72

DC+ or AC

For gouging and removing weld metal or defects.

Ø 5.00mm

Mac Stud E73

For the stud welding application described by MWA.

Ø 2.50mm, 3.25mm, 4.00mm, 5.00mm

Mac Cut E74

DC+ or AC

For arc cutting on compatible metals.

Ø 2.50mm



Quote the full grade reference, diameter and quantity. Ask for pack options.

MWA technical literature

© R H Davey Welding Supplies Ltd · Design and editorial content