

Outershield® MC715-H

CLASSIFICATION

| | | | |
|----------------|-----------------|---------|---|
| AWS A5.18 | E70C-6M H4 | A-Nr | 1 |
| EN ISO 17632-A | T 46 4 M M 2 H5 | F-Nr | 6 |
| | | 9606 FM | 1 |

GENERAL DESCRIPTION

Metal cored gas shielded wire for all positions
 Few silicates and virtually no spatter, fast travel speed, excellent wire feeding
 Excellent arc characteristics give outstanding operator appeal
 Excellent mechanical properties (CNV >47) at -40°C
 Superior product consistency with optimal alloy control
 Depending on application good alternative for basic flux cored wires

WELDING POSITIONS (ISO/ASME)



CURRENT TYPE / SHIELDING GAS (ISO 14175)

DC +
 M21 : Mixed gas Ar+ (>15-25%) CO₂
 Flow rate: 15-25 l/min

APPROVALS

| Shielding gas | BV | DB | DNV | GL | RINA |
|---------------|-----------|----|----------|---------|-------|
| M21 | SA3,3YMHH | + | IV Y40H5 | 4Y40H5S | 4YSH5 |

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

| Shielding gas | C | Mn | Si | P | S | HDM |
|---------------|------|-----|-----|-------|-------|------------|
| M21 | 0.04 | 1.5 | 0.4 | 0.012 | 0.020 | 3 ml/100 g |

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

| | Shielding gas | Condition | Yield strength [N/mm ²] | Tensile strength [N/mm ²] | Elongation [%] | Impact ISO-V(J) | | |
|---------------------------------------|---------------|-----------|-------------------------------------|---------------------------------------|--------------------|-----------------|---------|-------|
| | | | | | | -30°C | -40°C | -50°C |
| Required: AWS A5.18 EN ISO 17632-A | | | min. 400 min. 460 | min. 480 530-680 | min. 22 min. 20 | | min. 47 | |
| Typical values | M21 | AW | 480 | 580 | 27 | 120 | 110 | 80 |
| | M21 | SR | 430 | 485 | 30 | | 120 | 90 |

SR : 2h/640°C

PACKAGING AND AVAILABLE SIZES

| Diameter (mm) | 1.0 | 1.2 | 1.4 | 1.6 |
|-------------------------|-----|-----|-----|-----|
| 5 kg plastic spool S200 | X | X | | |
| 16 kg spool B300 | X | X | X | X |
| 200 kg Accutrak® Drum | X | X | X | X |

Outershield® MC715-H: rev. C-EN29-01/12/16

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EXAMPLES OF MATERIALS TO BE WELDED

| Steel grades/Standard | Type |
|--|--|
| General structural steels | |
| EN 10025 part 2 | S185, S235, S275, S355 |
| Ship plates | |
| ASTM A131 | Grade A, B, D, AH32 to EH40 |
| Cast steels | |
| EN 10213-2 | G P 240R |
| Pipe material | |
| EN 10208-1 | L210, L240, L290, L360 |
| EN 10208-2 | L240NB, L290NB, L360NB, L360QB, L240MB, |
| L290MB, L360MB, L415MB, L415NB, L445 | |
| API 5LX | X42, X46, X52, X60, X65 |
| EN 10216-1/ | P235T1, P235T2, P275T1 |
| EN 10217-1 | P275T2, P355N |
| Boiler & pressure vessel steels | |
| EN 10028-2 | P235GH, P265GH, P295GH, P355GH |
| Fine grained steels | |
| EN 10025 part 3 | S275N, S275NL, S355N, S355NL, S420N, S420NL, S460N, S460NL |
| EN 10025 part 4 | S275M, S275ML, S355M, S355ML, S420M, S420ML, S460M, S460ML |

CALCULATION DATA

| Diameter (mm) | Arc mode | Electrical stick-out (mm) | Wire Feed Speed (cm/min) | Current (A) | Arc Voltage (V) | Deposition rate (kg/h) | kg wire/ kg weldmetal |
|------------------|-----------|---------------------------------|--------------------------------|----------------|--------------------|------------------------------|--------------------------|
| 1.2 | Short arc | 15 | 230 | 100 | 15 | 1.1 | 1.10 |
| | | | 320 | 120 | 16 | 1.4 | 1.10 |
| | | | 400 | 150 | 17 | 1.9 | 1.10 |
| 1.2 | Spray arc | 20 | 635 | 180 | 28-30 | 2.7 | 1.10 |
| | | | 940 | 275 | 31-34 | 4.8 | 1.10 |
| | | | 1420 | 340 | 35-38 | 6.8 | 1.10 |
| | | | 205 | 105 | 14.5 | 1.2 | 1.10 |
| 1.4 | Short arc | 15 | 255 | 125 | 15.0 | 1.5 | 1.10 |
| | | | 280 | 135 | 15.5 | 1.6 | 1.10 |
| | | | 445 | 170 | 27-29 | 2.5 | 1.10 |
| 1.4 | Spray arc | 20 | 890 | 270 | 29-32 | 5.0 | 1.10 |
| | | | 1400 | 355 | 32-34 | 8.1 | 1.10 |
| | | | 180 | 145 | 15 | 1.5 | 1.10 |
| | | | 205 | 160 | 16 | 1.7 | 1.10 |
| 1.6 | Short arc | 18 | 230 | 170 | 18 | 1.9 | 1.10 |
| | | | 380 | 235 | 25-26 | 2.9 | 1.10 |
| | | | 635 | 325 | 29-32 | 5.0 | 1.10 |
| 1.6 | Spray arc | 25 | 890 | 400 | 34-37 | 7.0 | 1.10 |
| | | | 1145 | 460 | 36-38 | 9.1 | 1.10 |

WELDING PARAMETERS, OPTIMUM FILL PASSES IN SHIELDING GAS Ar + [±15-25]% CO₂

| Diameter (mm) | Welding positions | | | | |
|------------------|-------------------|----------|----------|----------|----------|
| | PA/1G | PB/2F | PC/2G | PF/3Gup | PE/4G |
| 1.2 | 230-380A | 230-380A | 230-300A | 130-170A | 140-175A |
| | 26-36V | 26-36V | 26-30V | 15-17V | 16-17V |
| 1.4 | 240-385A | 240-385A | 240-340A | 160-180A | 175-185A |
| | 26-36V | 26-36V | 26-31V | 14-15V | 15-16V |
| 1.6 | 280-460A | 280-460A | 270-300A | | |
| | 28-36V | 28-36V | 28-30V | | |