

Outershield® T55-H

CLASSIFICATION

| | | | |
|-----------------------|-----------------------------------|----------------|---|
| AWS A5.20 | E71T-5C-JH4 / E71T-5M-JH4 | A-Nr | 1 |
| EN ISO 17632-A | T 42 4 B C 2 H5 / T 42 4 B M 2 H5 | F-Nr | 6 |
| | | 9606 FM | 1 |

GENERAL DESCRIPTION

All position gas shielded basic flux cored wire
 Good weldability, also vertical up [3G]
 Exceptional mechanical properties [CVN >47J] at -50°C
 Superior product consistency with optimal alloy control
 Excellent wire feeding

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G

CURRENT TYPE / SHIELDING GAS (ISO 14175)

DC -
 M21 : Mixed gas Ar+ (>15-25%) CO₂
 C1 : Active gas 100% CO₂
 Flow rate: 15-25 l/min

APPROVALS

| Shielding gas | ABS | BV | DB | DNV | GL | LR | RINA |
|---------------|----------|-----------|----|---------|--------|----------|------|
| M21 | 3SA,3YSA | SA3,3YMHH | + | IVYMSH5 | 4YH10S | 4Y40SH15 | |
| C1 | 3SA,3YSA | SA3,3YMHH | + | IVYMSH5 | 4YH10S | 4Y40SH15 | 3YS |

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

| Shielding gas | C | Mn | Si | P | S | HDM |
|---------------|------|-----|------|-------|-------|------------|
| C1 | 0.05 | 1.5 | 0.55 | 0.012 | 0.010 | 3 ml/100 g |
| M21 | 0.06 | 1.5 | 0.6 | 0.012 | 0.010 | 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) | | |
|---------------------------------------|---------------|-----------|-------------------------------------|---------------------------------------|--------------------|-----------------|--------------------|-------|
| | | | | | | -20°C | -40°C | -50°C |
| Required: AWS A5.20 EN ISO 17632-A | | | min. 400 min. 420 | min. 480 500-640 | min. 22 min. 20 | | min. 27 min. 47 | |
| Typical values | M21 | AW | 480 | 570 | 27 | 130 | 85 | 60 |

PACKAGING AND AVAILABLE SIZES

| Diameter (mm) | 1.2 | 1.6 |
|------------------|-----|-----|
| 16 kg spool B300 | X | X |

Outershield® T55-H : rev. C-EN29-20/10/2021

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EXAMPLES OF MATERIALS TO BE WELDED

| Steel grades/Standard | Type |
|--|--|
| General structural steels | |
| EN 10025 | 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 |
| API 5LX | X42, X46, X52, X60 |
| 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 | S275, S355, S420 |
| EN 10025 part 4 | S275M, S275ML, S355M, S355ML, S420M, S420ML |

CALCULATION DATA

| Diameter (mm) | Electrical stick-out (mm) | Wire Feed Speed (cm/min) | Current (A) | Arc Voltage (V) | Deposition rate (kg/h) | kg wire/kg weldmetal |
|---------------|---------------------------|--------------------------|-------------|-----------------|------------------------|----------------------|
| 1.2 | 20 | 510 | 130 | 25-27 | 1.6 | 1.20 |
| | | 760 | 185 | 26-28 | 2.5 | 1.20 |
| | | 1015 | 225 | 27-29 | 3.3 | 1.20 |
| | | 1270 | 260 | 28-30 | 4.1 | 1.20 |
| | | 1525 | 290 | 29-31 | 5.0 | 1.20 |
| | | 1780 | 310 | 30-32 | 5.8 | 1.20 |
| 1.6 | 20 | 380 | 170 | 24-26 | 2.5 | 1.15 |
| | | 510 | 225 | 25-27 | 3.1 | 1.15 |
| | | 760 | 310 | 27-29 | 4.7 | 1.15 |
| | | 1015 | 380 | 29-31 | 6.3 | 1.15 |
| | | 1270 | 430 | 31-33 | 7.9 | 1.15 |

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

| Diameter (mm) | Welding positions | | | |
|---------------|-------------------|----------|----------|----------|
| | PA/1G | PB/2F | PC/2G | PF/3Gup |
| 1.2 | 215-290A | 215-290A | 215-250A | 110-150A |
| | 28-34V | 28-34V | 28-30V | 17-20V |
| 1.6 | 320-390A | 320-390A | 280-350A | 130-180A |
| | 28-34V | 28-34V | 28-32V | 18-22V |
| 2.4 | 350-550A | 350-550A | | |
| | 30-34V | 30-34V | | |