

# PRODUCT DATA SHEET

## Afrox TM-79I



TM-79I is a gas shielded flux cored wire for welding carbon manganese steels having a tensile strength up to 620 MPa and where impact properties at sub-zero temperatures may be required. It also has low spatter levels and the slag is easy to remove. The wire is recommended for single and multi-pass welding in all positions using a 75% Ar/25% CO<sub>2</sub> argon-based mixed gas (Afrox Fluxshield®) or CO<sub>2</sub>. TM-79I has excellent welder appeal with superior mechanical properties.

It has a quiet soft arc with very low spatter and fume levels. Deposited weld metal has similar mechanical properties to that of a 7018 type MMA electrode. These features, along with the high deposition rates inherent in out-of-position welding, make TM-79I an excellent choice for shipbuilding, pressure vessel fabrication and structural welding.

### Classifications

AWS	A5.20	E71T-1, E71T-1M
AWS	A5.20	E71T-9, E71T-9M

### Approvals

Lloyds Register of Shipping Grade 3YSH 10
American Bureau of Shipping 3SA, 3YSA HH, (75Ar/25CO <sub>2</sub> ), 3YSA HH (CO <sub>2</sub> )
Det Norske Veritas 111Y40MS (H10)
Bureau Veritas SA 3YM HH
Germanischer Lloyd 3YH10S

### Typical Chemical Analysis (All weld metal)

Shielding Gas	Fluxshield®	CO <sub>2</sub>	Shielding Gas	Fluxshield®	CO <sub>2</sub>
% Carbon	0,022	0,021	% Sulphur	0,01	0,011
% Manganese	1,6	1,3	% Phosphorous	0,014	0,015
% Silicon	0,82	0,69			

### Typical Mechanical Properties (All weld metal using CO<sub>2</sub> gas)

Shielding Gas	Fluxshield®	CO <sub>2</sub>
Yield Strength	592 MPa	546 MPa
Tensile Strength	662 MPa	605 MPa
% Elongation on 50 mm	26	28
Charpy V-Notch at -18°C	80 J	95 J
Charpy V-Notch at -29°C	68 J	69 J

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## Welding Data (DC+) Shielding Gas: Fluxshield®

Diameter (mm)	Position	Current		Deposition Rates (kg/h)	Electrode Stick Out (mm)
		Amps (A)	Volts (V)		
1,2	Flat/horizontal	250	26	4,1	12,0
1,2	Vertical-up/overhead	170 - 220	22 - 24	2,0 - 3,5	12,0
1,6	Flat	360	27	5,5 - 3,6	25,0
1,6	Horizontal	280	24	3,6	25,0
1,6	Vertical-up/overhead	215 - 245	22 - 23	2,6 - 3,0	25,0

## Welding Data (DC+) Shielding Gas: CO<sub>2</sub>

Diameter (mm)	Position	Current		Deposition Rates (kg/h)	Electrode Stick Out (mm)
		Amps (A)	Volts (V)		
1,2	Flat/horizontal	260	27	4,1	12,0
1,2	Vertical-up/overhead	170 - 220	23 - 25	2,0 - 3,4	12,0
1,6	Flat	360	29 - 26	5,5 - 3,6	25,0
1,6	Horizontal	280	26	3,6	25,0
1,6	Vertical-up/overhead	215 - 245	24 - 25	2,6 - 3,0	25,0

## Packing Data

Diameter (mm)	Pack Mass Drums (kg)	Item Number
1,2	15,0	W081051
1,6	15,0	W081052

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For more information contact the Afrox Customer Service Centre Tel: 0860 02 02 02  
E-mail: [customer.service@afrox.linde.com](mailto:customer.service@afrox.linde.com) Website: [www.afrox.com](http://www.afrox.com)

