

# ELGACORE<sup>®</sup> MATRIX



AWS A5.18: E70C-6M H4

EN ISO 17632-A: T 46 4 M M21 3 H5

WELDING POSITIONS:



FEATURES	BENEFITS	APPLICATIONS
<ul style="list-style-type: none"> <li>Ultraconsistent Feeding Capability</li> <li>Stable arc at high parameters</li> <li>Nice bead appearance with minimal Silicon island</li> <li>Flat and symmetric bead shape</li> <li>Smooth arc characteristic</li> <li>Low level of spatters; easy silicates removal</li> <li>High mechanical properties</li> </ul>	<ul style="list-style-type: none"> <li>Constant feeding over long distances, no interruptions</li> <li>High performance, ideal for robot welding</li> <li>Reduced post weld cleaning</li> <li>Welds with extended fatigue life</li> <li>Superior bead wetting, User-friendly wire</li> <li>Reduced clean-up time; improved productivity</li> <li>Suited for -40°C applications</li> </ul>	<ul style="list-style-type: none"> <li>Heavy equipment</li> <li>Infrastructure</li> <li>General fabrication</li> <li>Transportation</li> <li>Automatic and robotic welding</li> <li>Single and multi-pass welding</li> </ul>

WIRE TYPE	Gas shielded metal-cored wire
SHIELDING GAS	75-85% Argon (Ar) / Balance Carbon Dioxide (CO <sub>2</sub> ); Gas flow 15-25 l/min (32-53 cfm)
TYPE OF CURRENT	Direct Current Electrode Positive (DCEP)
STANDARD DIAMETERS	Ø 1.2 mm (0.045") - 1.4 mm (0.052") - 1.6mm (1/16")
TYPICAL DIFFUSIBLE HYDROGEN*	< 4.0 ml / 100 g;
RE-DRYING	Not recommended
STORAGE	In their original, undamaged packaging under climatic conditions of 10-30°C and maximum relative humidity of 80%

\*Measurement technique is the carrier gas method according to AWS and ISO

## MATERIALS TO BE WELDED\*

Shipbuilding steels		A, B, D, AH 32 - EH 36
Unalloyed structural steels	Rel ≤ 355 MPa	S185 - S355, A 106 Gr.B, A 333 Gr. 6
Boiler steels	Rel ≤ 355 MPa	P235GH - P355GH
Pipe steels	Rel ≤ 460 MPa	P235T1/T2 - P46NL2; L210 - L445MB
Fine grain structural steels	Rel ≤ 460 MPa	S235 - S460QL1
Steels to API-standard	Rel ≤ 460 MPa	X42 - X60

\*) The specified base materials are not complete and should only be seen as examples. The selection of the appropriate combination of steel and welding consumable should follow the specific mechanical strength and toughness requirements.

## ALL WELD METAL CHEMISTRY (%) (typical values for mixed gas 82% Ar / 18% CO<sub>2</sub>)

Carbon ( C )	0.05	Nickel (Ni)	-
Manganese (Mn)	1.3	Molybdenum (Mo)	-
Silicon (Si)	0.6	Chromium (Cr)	-
Sulphur (S)	0.02		
Phosphorus (P)	0.01		

## ALL WELD METAL MECHANICAL PROPERTIES (for mixed gas 82% Ar / 18% CO<sub>2</sub>)

Mechanical tests	Typical values MPa (ksi)
Tensile Strength Rm	575 (83)
Yield strength Rp0.2	515 (75)
Expansion A5	25%

## CHARPY V-NOTCH IMPACT VALUES (for mixed gas 82% Ar / 18% CO<sub>2</sub>)

Mechanical Tests	Typical values [J] (ft.lbf)
-20 °C	100 (74)
-40 °C	60 (44)

APPROVALS: CE, TÜV (19810 - 1.2&1.4mm) , DB (42.027.23- 1.2&1.4mm)

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