

For 780MPa High Tensile Strength Steel

APPLICATIONS

Welding of 780MPa high tensile strength steel (WEL-TEN™ 780, 780C, 780P and 780E) for penstocks, pressure vessels, bridges, machinery and turbine casings.

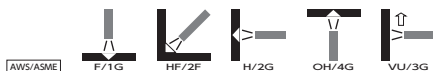
CHARACTERISTICS

L-80 is an extra low hydrogen type electrode with high resistance to moisture absorption. Weldability in all positions, mechanical properties and X-ray quality are excellent. Extremely low diffusible hydrogen content in weld metal assures satisfactory crack resistance.

GUIDELINES FOR USAGE

1. Electrodes should be redried at 350~400°C for 60 minutes before use.
2. Preheating in accordance with the type of steel, plate thickness, restraint, etc., i.e. at 120~180°C for a 35mm thick plate is necessary to prevent cracks.
3. Welding with excessively high heat input, i.e. more than 45 kJ/cm for a 35mm thick plate, should be avoided to assure strength and toughness of weld.

WELDING POSITION



■ TYPICAL CHEMICAL COMPOSITION OF WELD METAL (%)

C	Si	Mn	Ni	Cr	Mo
0.05	0.44	1.35	2.52	0.18	0.54

■ TYPICAL MECHANICAL PROPERTIES OF WELD METAL

Yield Strength, MPa	Tensile Strength, MPa	Elongation, %	Charpy 2V-notch at -20°C, J
740	830	22	96

■ SIZES & RECOMMENDED CURRENT RANGE<AC or DC(+)>

Diameter (mm)		3.2	4.0	5.0	6.0
Length (mm)		350	400	400	400
Current A	F, H-Fil	100~140	140~190	190~250	250~310
	V _{up} , OH	90~130	120~170	140~190	—

Identification color: End-orange, secondary-purple
WEL-TEN is a trademark of NIPPON STEEL CORPORATION.