

# PROWELD 4816 *For 490 N/mm<sup>2</sup> High Tensile Strength Steel*

## Classification

AWS A 5.1	: E7016
JIS Z 3211	: E4916U
DIN 1913	: E 51 3 3 B(R) 10
EN 499	: E 42 2 B 12 H5

## Approvals

ABS, BV, DNV, LR, NK, TIS

## Applications

Welding of 490 N/mm<sup>2</sup> high tensile strength steels for ships, structures and bridges.

## Characteristics

PROWELD 4816 is a low hydrogen type electrode for all positions welding. Deposited metal shows excellent crack resistance, mechanical properties and X-ray quality. Vertical and overhead welding are very easy.

## Typical Chemical Composition of Deposited Metal (%)

C	Si	Mn	P	S	Diffusible H <sub>2</sub>
0.07	0.62	1.18	0.011	0.008	≤5 ml/100 g

## Typical Mechanical Properties of Deposited Metal

Tensile Strength N/mm <sup>2</sup> (kgf/mm <sup>2</sup> )	Yield Strength N/mm <sup>2</sup> (kgf/mm <sup>2</sup> )	Elongation %	Charpy 2V-notch J (kgf.m)
550 (56)	480 (49)	32	0°C 190 (19.4) -20°C 170 (17.3)

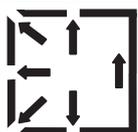
## Sizes & Recommended Current Range (AC or DC +)

Diameter/ Length (mm)	2.6/300	3.2/350	4.0/400	5.0/450
Welding Position	Current (A)			
F	70~100	100~140	150~190	190~240
V-up, OH	60~90	80~120	110~150	130~170

## Guideline in Usage

1. Use dry electrodes only. Damp electrodes should be re-dried at 300~350°C for 60 minutes.
2. Backstep method should be applied to prevent blowholes and pits at arc starting and arc length should be kept as short as possible during welding.
3. All water, rust and oil in groove should be completely removed to prevent cracks and blowholes.

## Welding Positions



*All positions, except vertical down*