

**DESCRIPTION:**

The WELDWELL The WELDWELL PH77 is a low-hydrogen electrode containing iron-powder in the coating. PH77 is designed to weld in all positions except vertical down.

The welding arc of PH77 is very quiet and with very little spatter and the weld metal deposits exceptionally smoothly with excellent wash to the weld sides which practically eliminates undercutting. The slag is easy to control and is easy to remove after welding.

Compared to the general types of low-hydrogen electrodes the PH77 performs nearly like a rutile electrode with low-hydrogen results.

This Weldwell PH77 electrode is for welding unalloyed, micro-alloyed and low-alloy steels up to medium tensile strength. This electrode is used where the highest standards are required, such as high ductility and X-ray qualities.

It is excellent for thick plates and highly restrained work pieces, etc. Due to its Low-Hydrogen properties it is suitable to weld sulphur-alloyed (0.2-0.3% S) steels (free cutting steel) and for steels with increased carbon content. PH77 may be used for cold or hot welding of cast iron but care should be exercised because of carbon pickup which causes brittleness. It is very suitable for most steel castings.

**Applications:**

Penstocks, turbines, Class 1 pressure vessels, heavy girders, tanks, earthmoving plant, repair and maintenance, etc.

**Welding Techniques**

Arc striking is easy and re-starting is simple as a slight drag brings arc ignition.

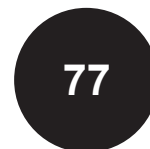
Welding is done with a short arc and low travel speeds.

**Recommended Amperages**

Dia.	Length	Amperes
mm	mm	
2.5	305	60-105
3.2	380	90-145
4.0	380	140-200
5.0	455	180-300

AC 70V      DC +

AWS A5.1:2004 : E7018-1 H8  
AS/NZS 4855B:2007 : E4918-1AU H5

**WELDWELL**

**LOW HYDROGEN  
ELECTRODES  
FOR WELDING  
MILD AND MEDIUM-  
TENSILE STEELS**

TIP COLOUR      Black  
FLUX MARKING      PH77 7018-1 4918-1A

**Approvals:**

American Bureau of Shipping  
Lloyds Register of Shipping  
Bureau Veritas

**Welding Positions:**

F, H, V, OH

**Typical Mechanical Properties of Weld Metal**

Tensile Strength	563 MPa
Yield Value	483 MPa
Elongation(1 = 5d)	29%
Impact Value Charpy	
V Notch at -50°C	123 J

**Typical Chemical Analysis**

C	0.04%
Mn	1.47%
Si	0.31%

**Storage** (See also page 84.)

Once the packet has been opened, these electrodes should be stored in a heated cabinet at a temperature of 20°C minimum and/or at least 10°C above ambient. Good ventilation should be allowed.

For highest weld quality, these electrodes should be baked before use at 350°C for one hour to achieve a maximum weld metal hydrogen level of 10ml/100g; or 400°C for one hour to achieve a maximum weldmetal hydrogen of 5 ml/100g. Do not re-dry more than three times. These temperatures should also be used to recondition damp electrodes. Use from a hot box during welding.