



# Product Data Sheet

E 'Manual metal-arc welding'

## Xpert 7018-1

|              |               |             |          |            |            |       |
|--------------|---------------|-------------|----------|------------|------------|-------|
| Prepared by  | Qualified by  | Approved by | Reg no   | Cancelling | Reg date   | Page  |
| Dinesh Kumar | P-O Oskarsson | J-P Ernout  | EN011053 | None       | 2024-02-07 | 1 (2) |

### REASON FOR ISSUE

New Product

### GENERAL

Xpert 7018-1 is a basic DC+ electrode for welding of mild and low alloy steels. Excellent for general purpose welding. It provides very low Hydrogen and good impact toughness at -45°C.

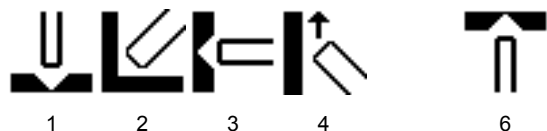
**Polarity:** DC+(-)

**Alloy Type:** Carbon Manganese

**Coating Type:** Basic covering

**Diff Hydrogen:** < 4 ml/100g

### WELDING POSITIONS



### CLASSIFICATIONS Electrode

|               |                |
|---------------|----------------|
| SFA/AWS A5.1  | E7018 H4       |
| SFA/AWS A5.1  | E7018-1 H4     |
| EN ISO 2560-A | E 42 4 B 42 H5 |

### APPROVALS

|     |       |
|-----|-------|
| DNV | 4 YH5 |
|-----|-------|

### CHEMICAL COMPOSITION

#### All Weld Metal (%)

|               | Max   |
|---------------|-------|
| C             | 0.15  |
| Si            | 0.75  |
| Mn            | 1.60  |
| P             | 0.035 |
| S             | 0.035 |
| Cr            | 0.20  |
| Ni            | 0.30  |
| Mo            | 0.30  |
| V             | 0.08  |
| Nb            | 0.05  |
| Cu            | 0.30  |
| Mn+Ni+Cr+Mo+V | 1.75  |

### MECHANICAL PROPERTIES OF WELD METAL

| Standard | Condition | Rp0.2<br>[MPa/ksi] |     | ReL<br>[MPa/ksi] |     | Rm<br>[MPa/ksi] |        |     | A4<br>[%] |     | A5<br>[%] |     |
|----------|-----------|--------------------|-----|------------------|-----|-----------------|--------|-----|-----------|-----|-----------|-----|
|          |           | Min                | Typ | Min              | Typ | Min             | Max    | Typ | Min       | Typ | Min       | Typ |
| ISO      | As welded |                    |     | 420/61           |     | 500/73          | 640/93 |     |           |     | 20        |     |
| AWS      | As welded | 400/58             |     |                  |     | 490/71          |        |     | 22        |     |           |     |

Comments:



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| Dinesh Kumar | P-O Oskarsson | J-P Ernoult | EN011053 | None       | 2024-02-07 | 2 (2) |

### MECHANICAL PROPERTIES OF WELD METAL

| Standard | Condition | Temp<br>[°C/°F]    | Charpy V<br>[J/ft-lb] |     |
|----------|-----------|--------------------|-----------------------|-----|
|          |           |                    | Min                   | Typ |
| ISO      | As welded | -40/-40<br>-45/-49 | 47/35                 |     |
| AWS      | As welded | -40/-40<br>-45/-49 | 27/20                 |     |

Comments:

### ECONOMICS & CURRENT DATA

| Dimension                         | Current<br>(A) |     | W    | $\eta$ | N    | B   | H                       | T   | U   | Welding Positions |
|-----------------------------------|----------------|-----|------|--------|------|-----|-------------------------|-----|-----|-------------------|
| $\varnothing$ x Length            | Min            | Max | Nom  | Nom    | Nom  | Nom | Nom                     | Nom | Nom |                   |
| 2.5 x 350 mm<br>(0.098 x 13.8 in) | 70             | 110 | 2.2  | 113    | 0.56 | 78  | 0.77 kg/h<br>(1.7 lb/h) | 60  | 20  | 1,2,3,4,6         |
| 3.2 x 350 mm<br>(1/8 x 13.8 in)   | 90             | 140 | 3.5  | 112    | 0.59 | 48  | 1.16 kg/h<br>(2.6 lb/h) | 65  | 21  | 1,2,3,4,6         |
| 3.2 x 450 mm<br>(1/8 x 17.7 in)   | 90             | 140 | 4.6  | 114    | 0.62 | 35  | 1.21 kg/h<br>(2.7 lb/h) | 85  | 21  | 1,2,3,4,6         |
| 4.0 x 350 mm<br>(5/32 x 13.8 in)  | 130            | 190 | 5.2  | 109    | 0.61 | 32  | 1.54 kg/h<br>(3.4 lb/h) | 75  | 22  | 1,2,3,4,6         |
| 4.0 x 450 mm<br>(5/32 x 17.7 in)  | 130            | 190 | 6.7  | 110    | 0.64 | 24  | 1.62 kg/h<br>(3.6 lb/h) | 98  | 22  | 1,2,3,4,6         |
| 5.0 x 450 mm<br>(0.197 x 17.7 in) | 170            | 230 | 10.4 | 111    | 0.65 | 15  | 2.04 kg/h<br>(4.5 lb/h) | 118 | 23  | 1,2,3,4           |

**W** = Weight (kg / 100 electrodes)

**$\eta$**  = Filler metal efficiency (g weld metal x 100 / g wire)(%)

**N** = Deposition efficiency (g weld metal x 100 / g electrode)(%)

**B** = Changes (number of electrodes / kg weld metal)

**H** = Deposition rate at 90% of max current (kg weld metal/hour arc time)

**T** = Fusion time at 90% of max current (s/electrode)

**U** = Arc voltage (V)