



# MIG F77G

Old reference: MIG 100SG

## Classification

AWS A5.28 : ER100S-G

ISO 16834-A : G 69 4 M21 Mn3Ni1CrMo

## Description & Applications

Copper coated solid wire low alloyed with Nickel and Molybdenum for gas (Ar + CO<sub>2</sub>) metal arc welding of high strength steels (R<sub>m</sub> > 770MPa). Good impact strength at low temperature down to -40°C.

**Main applications:** Chemical and petrochemical industry, offshore fabrication, industrial machinery construction, cranes...

### Base materials:

### High strength steels :

| EN   | ASTM              |
|------|-------------------|
| S460 | A 514             |
| S500 | A 517             |
| S550 | HY100             |
| S620 | HY80              |
| S690 | HY90              |
| L480 | API 5AL80         |
| L550 | API 5LX65, 70, 80 |

## Typical Chemical Composition ( % )

|      | C    | Si   | Mn   | Cr   | Ni   | Mo   | Cu   | Al    | Ti    | Zr    | V    | P     | S     | O/T   |
|------|------|------|------|------|------|------|------|-------|-------|-------|------|-------|-------|-------|
| Min  |      | 0.40 | 1.30 | 0.20 | 1.20 | 0.20 |      |       |       |       | 0.05 |       |       |       |
| Max  | 0.12 | 0.70 | 1.80 | 0.40 | 1.60 | 0.30 | 0.35 | 0.12  | 0.10  | 0.10  | 0.13 | 0.015 | 0.018 | 0.25  |
| Type | 0.08 | 0.60 | 1.6  | 0.30 | 1.4  | 0.25 | 0.13 | 0.005 | 0.002 | 0.002 | 0.08 | 0.01  | 0.01  | <0.25 |

## All Weld Metal Mechanical Properties

|      | R <sub>e</sub> ( MPa ) | R <sub>m</sub> ( MPa ) | A <sub>5</sub> ( % ) | KV ( J )  |
|------|------------------------|------------------------|----------------------|-----------|
| Min  | 690                    | 770                    | 17                   | -40°C >47 |
| Max  |                        | 940                    |                      |           |
| Type | 730                    | 800                    | 18                   | -40°C 55  |

## Welding Current & Instructions

| Welding mode | Wire Ø (mm) | Welding parameters    |                    | Shielding Gas                                          |
|--------------|-------------|-----------------------|--------------------|--------------------------------------------------------|
|              |             | Current ( A )         | Voltage ( V )      |                                                        |
| GMAW<br>= +  | 1.0<br>1.2  | 80 - 260<br>100 - 360 | 17 - 32<br>18 - 34 | ISO 14175:<br>M21 (Ar/CO <sub>2</sub> )<br>12-15 l/min |

Preheating and interpass temperature: 135-165°C.

FT En-MF15-191113

**Liability:** This document is intended to assist the user in choosing the product. It is up to the user to verify that the chosen product is suitable for applications for which it is intended. The company FSH Welding Group reserves the right to alter specifications without prior notice of its products. The descriptions, illustrations and specifications are for reference only and cannot be held liable for FSH Welding Group. **Fumes:** Consult information on MSDS, available upon request.