

# GRIDUCT 88C3

## IDENTIFICATION

Griduct 88C3 , E 8018-C3

## CLASSIFICATION

AWS/SFA 5.5 E8018-C3 BS 2493 1NiBH,  
DIN 8529 EY46551NiB

## DESCRIPTION

A basic coated low-hydrogen electrode producing a nominal 1.0% Ni weld metal, designed for welding C-Mn steel and low alloy steel where excellent fracture toughness at temperature down to -60°C is required. The addition of 1.0% Ni produces microstructural refinement, with improved tolerance to procedural variations compared to plain C-Mn weld metal. The deposited weld metal is of X-ray quality.

## WELD METAL ANALYSIS (RANGE) %

| C         | Mn         | Si          | Cr       | Ni         | V        | Mo       | S         | P         |
|-----------|------------|-------------|----------|------------|----------|----------|-----------|-----------|
| 0.095 max | 0.8 - 1.25 | 0.20 - 0.50 | 0.15 max | 0.8 - 1.10 | 0.05 max | 0.35 max | 0.020 max | 0.025 max |

## MECHANICAL PROPERTIES (RANGE)

| TS (MPa) | YS (MPa) | EL (%)<br>(L=4D) | CVN Impact Value |          |
|----------|----------|------------------|------------------|----------|
|          |          |                  | Temp             | Joules   |
| 550 min  | 470 min  | 24 min           | -40°C            | 50-120   |
|          |          |                  | -50°C            | 40 - 100 |

## TYPICAL APPLICATIONS

- Welding of higher strength steel structure where post-weld heat-treatment is impracticable.
- Off-shore construction, pressure vessels, pipe lines, BS4360 Grade 50E, 55C, 55EF structural steel, DIN St52.3, GS-38, GS-52, etc.

**DIFFUSIBLE HYDROGEN IN THE WELD METAL :** Max 4.0 ml / 100 g of weld metal

**MICROSTRUCTURE :** In the as welded condition, the microstructure is ferritic with a component of acicular ferrite for optimum toughness.

**ASME IX QUALIFICATION :** QW-432 F-NUMBER 4, QW-442 A-NUMBER 10

**REDRYING TEMPERATURE :** 300°C / 2 hrs, max 5 cycles, 10 hrs. Total.

## WELDING POSITION :



## PACKING PARAMETERS

# GWELD

| Size (mm)   | Length (mm) | Amps AC / DC (+) | Packing / Box (kg) | Packing / Box (Pcs) |
|-------------|-------------|------------------|--------------------|---------------------|
| 2.5         | 350         | 65 - 100         | 5 x 4 = 20         | 160 x 4 = 640       |
| 3.15 / 3.20 | 450         | 80 - 130         | 5 x 4 = 20         | 110 x 4 = 440       |
| 4           | 450         | 130 - 180        | 5 x 4 = 20         | 70 x 4 = 280        |
| 5           | 450         | 160 - 220        | 5 x 4 = 20         | 45 x 4 = 180        |