# Ferrod® 165A



## CLASSIFICATION

| | | | |
|---|---|---|---|
| **AWS A5.1** | E7024-1 | **A-Nr** | 1 |
| **ISO 2560-A** | E 42 2 RA 7 3 | **F-Nr** | 1 |
| | | **9606 FM** | 1 |

## GENERAL DESCRIPTION

**Rutile-acid coated electrode with brittle slag, for fillet welds and horizontal V- and X-welds**
**160% recovery, high welding speed**
**Good X-ray soundness**
**Even in narrow gaps and rusty materials easy slag release**
**Class 3 approved**

## WELDING POSITIONS (ISO/ASME)

**PA/1G** **PB/2F** **PC/2G**

## CURRENT TYPE

AC / DC +/-

## APPROVALS

| ABS | DNV | GL | LR | TÜV |
|---|---|---|---|---|
| 3, 3Y | 3 | 3 | 3, 3Y | + |

## CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

| C | Mn | Si |
|---|---|---|
| 0.07 | 0.95 | 0.3 |

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

| | Condition | Yield strength (N/mm²) | Tensile strength (N/mm²) | Elongation (%) | Impact ISO-V(J) -10°C | Impact ISO-V(J) -18°C/-20°C |
|---|---|---|---|---|---|---|
| Required: AWS A5.1 | | min. 400 | min. 490 | min. 22 | | min. 27 |
| ISO 2560-A | | min. 420 | 500-640 | min. 20 | | min. 47 |
| Typical values | AW | 475 | 520 | 26 | 70 | 67 |

## PACKAGING AND AVAILABLE SIZES

| | | | | |
|---|---|---|---|---|
| | **Diameter (mm)** | 3.2 | 4.0 | 5.0 |
| | **Length (mm)** | 450 | 450 | 450 |
| **Carton + PE foil** | **Pieces / unit** | 99 | 60 | 41 |
| | **Net weight/unit (kg)** | 6.1 | 5.6 | 6.0 |

**Identification** Imprint: 7024-1 / FERROD 165A Tip Color: none

Ferrod 165A® : rev. C-EN24-01/02/16

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## EXAMPLES OF MATERIALS TO BE WELDED

| Steel grades/Code | Type |
|---|---|
| **General structural steels** | |
| EN 10025 | S185, S235, S275, S355 |
| **Ship plates** | |
| ASTM A 131 | Grade A, B, D, AH32 to DH36 |
| **Cast steels** | |
| EN 10213-2 | GP240R |
| **Boiler & pressure vessel steels** | |
| EN 10028-2 | P235, P265, P295, P355 |
| **Fine grained steels** | |
| EN 10025 part 3 | S275, S355 |
| EN 10025 part 4 | S275, S355 |

## CALCULATION DATA

| Sizes Diam. x length (mm) | Current range (A) | Current type | Arc time - per electrode at max. current - (S)* | Energy - per electrode at max. current - E(kJ) | Dep. rate - per electrode at max. current - H(kg/h) | Weight/ 1000 pcs (kg) | Electrodes/ kg weldmetal B | kg electrodes/ kg weldmetal 1/N |
|---|---|---|---|---|---|---|---|---|
| 3.2x450 | 125-155 | AC | 75 | 326 | 1.9 | 62.9 | 25 | 1.39 |
| 4.0x450 | 140-235 | AC | 65 | 527 | 3.6 | 96.5 | 15 | 1.39 |
| 5.0x450 | 210-330 | AC | 68 | 853 | 5.3 | 144.9 | 10 | 1.39 |

*Stub end 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

| Diameter (mm) | Welding positions PA/1G | PB/2F | PC/2G |
|---|---|---|---|
| 3.2 | 160A | 150A | 150A |
| 4.0 | 220A | 200A | 195A |
| 5.0 | 310A | 290A | |

## REMARKS / APPLICATION ADVICE

High yield strength steels such as S355, P355 and DH36 preheat according EN 1011-1