



# Selectarc 307R

High manganese stainless  
Rutile Electrode

## Classification

AWS A5.4 : ~E307-16

EN 1600 : E 18 8 Mn R 3 2

ISO 3581-A : E 18 8 Mn R 3 2

## Description & Applications

Austenitic (non-magnetic) rutile coated electrode for joining and overlaying on manganese steels (up to 14% Mn) and high sulphur and phosphorus containing steels, also for joining dissimilar steels, construction steels to stainless steels, for cushion layers prior hardfacing. Repairing of pieces submitted to shocks or wear by friction. Excellent maniability, easy slag removal, nice aspect of the bead.

**Main applications:** For civil engineering, railways, cement works (screening steels, digger buckets, crusher jaws...).

### Base materials

#### Screening steels

#### Tools steels\*

**Austenitic steels with Mn:** type Z 120 M 12, X 120 Mn 12, 1.3401

**Spring steels:** 45 Cr 4, 1.7035, 46 Si 7, 1.5024, 51 Si 7, 1.5025, 56 Si 7, 1.5026

(\*) with eventual pre- and post weld heat treatment.

## Typical Weld Metal Composition ( % )

| C   | Si  | Mn  | Cr   | Ni  | Fe   |
|-----|-----|-----|------|-----|------|
| 0.1 | 1.2 | 4.5 | 18.0 | 8.0 | Rem. |

## All Weld Metal Mechanical Properties

| R <sub>p0.2</sub> ( MPa ) | R <sub>m</sub> ( MPa ) | A <sub>5</sub> ( % ) | KV ( J )  |
|---------------------------|------------------------|----------------------|-----------|
| >400                      | >600                   | >30                  | +20°C >70 |

Hardness: as welded ~ 200 HB, work hardened ~ 500 HB.

## Welding Current & Instructions

| Electrode | ØxL ( mm ) | 2,5x300 | 3,2x350 | 4,0x350 | 5,0x350 |
|-----------|------------|---------|---------|---------|---------|
| Current   | ( A )      | 70      | 100     | 125     | 160     |

Redrying 1 hour at 300°C, if necessary. Never prehe at Mn-steels because of its sensitivity to hot cracks.

ind.12



= + ~ 70V

**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.

[www.fsh-welding.com](http://www.fsh-welding.com) - [info@fsh-welding.fr](mailto:info@fsh-welding.fr)