# Eles® C 7010 – A1

## High strength cellulosic electrode

### Classification

| | |
|---|---|
| AWS A5.5 | :E7010 – A1 |
| ISO 2560-A | :E 42 2 Mo C 25 |

### General description

**Cellulosic coated electrode for vertical down pipe welding**
**Suitable for pipe with strengths in the range of X52 до X65, and also for pipe steels with Mo content up to 0,5%**
**Can be used for root, fill and capping passes**
**Low susceptibility to wagon tracks, windows and pinholes**

### Welding positions

ISO/ASME PG/5G down

### Current type

DC electr. +

### Approvals

| TÜV |
|---|
| + |

### Chemical composition (w%),typical,all weld metal

| C | Mn | Si | Mo |
|---|---|---|---|
| 0.11 | 0.50 | 0.25 | 0.50 |

### Mechanical properties,all weld metal

| | | Condition | Yield strength ($N/mm^2$) | Tensile strength ($N/mm^2$) | Elongation (%) | Impact (ISO), J -20°C |
|---|---|---|---|---|---|---|
| Required | AWS A5.5 | | min.390 | min.480 | min. 22 | not required |
| | ISO 2560-A | | min.420 | 540-640 | min. 20 | min. 47 |
| Typical values after welding | | AW | 450 | 570 | 26 | 80 |
| | | SR1: 690±14°C/1h | 430 | 550 | 26 | 70 |

### Packaging, available sizes and identification

| | | | | |
|---|---|---|---|---|
| | Diameter (mm) | 3.2 | 4.0 | 5.0 |
| | Length (mm) | 350 | 350 | 350 |
| Unit: | Pieces / unit (nominal) | 340 | 210 | 135 |
| Metal can | Net weight/unit (kg) | 8.9 | 8.5 | 8.5 |

| | | |
|---|---|---|
| **Identification** | Imprint: Eles® C 7010 – A1 | Tip colour: none |

**Eles® C 7010 – A1 : rev. EN 20**

## Materials to be welded

| Steel | Code | Type |
|---|---|---|
| Pipe material | EN 10208-2 | L360 |
| | EN 10216-1/ EN 10217-1 | P355 |
| | API 5LX | X46, X52 |
| | Gaz de France | X46, X52 |

## 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) | Quantity of electrodes per 1kg of weldmetal (pcs.) | kg Electrodes/ kg weldmetal (1/N) |
|---|---|---|---|---|---|---|---|---|
| 3.2 x 350 | 80-140 | DC+ | | | | 25.6 | | |
| 4.0 x 350 | 100-200 | DC+ | | | | 40.3 | | |
| 5.0 x 350 | 140-210 | DC+ | | | | 61.4 | | |

*stub end = 35 mm

## Welding parameters,optimum fill passes

| Welding position | PG/5G down |
|---|---|
| Diameter (mm) | Current (A) |
| 3.2 | 110 |
| 4.0 | 150 |
| 5.0 | 165 |

## Application Advice

Preheating pipe material L360 required acc.EN 1011-1
Pipeclamps to be removed after finishing root pass,start welding”hot pass”immediately (within 5 min.) after root pass
Use electrode directly from metal cans