## BÖHLER FOX CEL Mo

böhlerwelding
by voestalpine
Cellulosic stick electrode, for vertical-down welding, pipe welding

| Classifications |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| EN ISO 2560-A | EN ISO 2560-B | AWS A5.5 | AWS A5.5M |  |  |  |  |
| E 42 3 Mo C 25 | E 49 10-M3 A | E7010-A1 | E4910-A1 |  |  |  |  |

## Characteristics and typical fields of application

Cellulose electrode for vertical-down welding of high strength large diameter pipelines. Highly economical compared with conventional vertical-up welding. Especially recommended for hot passes, filler and cover layers. Besides the excellent weld metal toughness properties it offers easy operation, and a concentrated intensive arc with deep penetration characteristics in order to ensure sound joint welds with good X-ray quality. BÖHLER FOX CEL Mo can be used in sour gas applications (HIC-Test acc. NACE TM-02-84). Test values for SSC-test are available too.

## Base materials

S235JR, S275JR, S235J2G3, S275J2G3, S355J2G3, P235GH, P265GH, L210 - L415NB, L290MB-L415MB, P355T1, P235T2 - P355T2, P235G1TH, P255G1TH
Root pass up to L555MB
API Spec. 5 L: $\quad$ Grade A, B, X $42, \times 46, X 52$, X 56, X 60
Root pass up to $X 80$

| Typical analysis of all-weld metal (wt.-\%) |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :---: | :---: |
|  | C | Si | Mn | Mo |  |  |
| wt-\% | 0.1 | 0.14 | 0.4 | 0.5 |  |  |

Mechanical properties of all-weld metal

| Condition | Yield strength $\mathrm{R}_{\mathrm{e}}$ | Tensile strength $\mathrm{R}_{\mathrm{m}}$ | Elongation A ( $\left.L_{0}=5 d_{0}\right)$ | Impact work ISO-V KV J |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MPa | MPa | \% | $+20^{\circ} \mathrm{C}$ | $\pm 0^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ |
| u | $\begin{aligned} & 480 \\ & (\geq 420) \end{aligned}$ | $\begin{aligned} & 550 \\ & (500-640) \end{aligned}$ | $\begin{aligned} & 23 \\ & (\geq 20) \end{aligned}$ | 100 | 95 | 85 | $\begin{aligned} & 50 \\ & (\geq 47) \end{aligned}$ | 42 |
| u untreated, as welded |  |  |  |  |  |  |  |  |


| Operating data |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Polarity: <br> DC (+)/DC (-) <br> polarity negative for root pass | Redrying: not allowed | Electrode identification: <br> FOX CEL Mo 7010-A1 E 423 Mo C | $\begin{gathered} \varnothing(\mathrm{mm}) \\ 3.2 \\ 4.0 \\ 5.0 \end{gathered}$ | $\begin{gathered} \text { L mm } \\ 350 \\ 350 \\ 350 \end{gathered}$ | Amps A $\begin{gathered} 80-130 \\ 120-180 \\ 160-210 \end{gathered}$ |

## Approvals

TÜV (01325.), ABS (E 7010-A1), SEPROZ, CE

