

**Classifications**

EN ISO 2560-A	EN ISO 2560-B	AWS A5.1 / SFA-5.1	AWS A5.1M
E 38 3 C 2 1	E4310 A U	E6010	E4310

**Characteristics and typical fields of application**

Cellulose electrode for vertical-down welding of large diameter pipelines; suitable for root runs (vertical down and vertical up), hot passes, filler and cover layers. Especially recommended for root run welding. Highly economical compared with vertical-up welding. Apart from its excellent welding and gap bridging characteristics FOX CEL offers a weld deposit with outstanding impact strength values and thus offers the benefit of still more safety in field welding of pipelines. BÖHLER FOX CEL 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, P355T1, P235T2-P355T2, L210NB - L415NB, L290MB - L415MB, P235G1TH, P255G1TH

Root pass up to L555NB, L555MB

API Spec. 5 L: A, B, X 42, X 46, X 52, X 56, Root pass up to X 80

**Typical analysis**

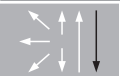
	C	Si	Mn
wt.-%	0.12	0.14	0.5

**Mechanical properties of all-weld metal - typical values (min. values)**

Condition	Yield strength	Tensile strength	Elongation A	Impact energy ISO-V KV J			
	$R_e$	$R_m$	$(L_0=5d_0)$	20°C	0°C	-20°C	-30°C
	MPa	MPa	%				
u	450 (≥ 380)	550 (470 – 600)	26 (≥ 22)	100	90	70	55 (≥ 47)

u untreated, as welded

**Operating data**

	<b>Polarity</b>	DC +, polarity negative for root pass	<b>Dimension mm</b>	<b>Current A</b>
	<b>Electrode identification</b>	FOX CEL 6010 E 38 3 C	2.5 × 250	50 – 90
			2.5 × 300	50 – 90
			3.2 × 350	80 – 130
			4.0 × 350	120 – 180
		5.0 × 350	160 – 210	

**Approvals**

TÜV (01281), DNV, CE