

Quality E295 (Fe 490 – Fe 50 – St 50-2 – C30E – C35E)

According to standards **EN 10025-2: 2004**

Number **1.0050**

Chemical composition

C%	Si%	Mn%	P% max	S% max	N% max	Cu%
			0,045	0,045	0,012 ^{a)}	Cast analysis
			0,055	0,055	0,014 ^{b)}	Product analysis

FN deoxidation method - rimming steel not admitted

^{a)} N max value is not applied if chemical composition shows total Al content of 0.020%

^{b)} N max value is not applied if chemical composition shows total Al content of 0.015%

Temperature °C

Hot-forming	Supply state	Soft annealing	Isothermal annealing	Temperature values are valid for analysis close to:			
1150-850	natural	700 air	850 furnace cooling to 650 after, air	C%	Mn%	Si%	
				~ 0.30	~ 0.60	~ 0.30	
In some cases the piece can be normalized and tempered or quenched and tempered				Pre-heating welding	Stress-relieving after welding		
Normalizing and tempering	Quenching and tempering	Stress-relieving	End quench hardenability	100	slow cooling		
880 air	860 water	50° under the temperature of tempering		Ac1	Ac3	Ms	Mf
540-650 air	550-650 air			730	810	400	180

Mechanical properties

Hot-rolled EN 10025-2: 2004 **E295** 1.0050 (normalization is suggested)

Testing at room temperature

size mm		R	size mm		ReH min	size mm		A% L	A% T	HB
from	to	N/mm ²	over	to	N/mm ²	over	to	min	min	for information
	3	490-660		16	295	3	40	20	18	149-202
3	100	470-610	16	40	285	40	63	19	17	141-183
100	150	450-610	40	63	275	63	100	18	16	135-183
150	250	440-610	63	80	265	100	150	16	15	132-183
			80	100	255	150	250	15	14	
			100	150	245	over	to	Kv + 20 °C J min		
			150	200	235	10	150			
	200	250	225	150	250					

Cold-drawn +C EN 10277-2: 2008 **E295GC** 1.0533

Hot-rolled – **Peeled Reeled +SH**

size mm		Testing at room temperature (longitudinal)				Testing at room temperature (longitudinal)			
from	to	R ^{b)}	Rp 0.2 ^{b)}	A%	HB	R	Rp 0.2	A%	HB
		N/mm ²	N/mm ² min	min	for information	N/mm ²	N/mm ² min	min	
5 ^{c)}	10	650-950	510	6	200-286				
10	16	600-900	420	7	178-271				
16	40	550-850	320	8	159-253	470-610			140-181
40	63	520-770	300	9	155-231	470-610			140-181
63	100	470-740	255	9	141-224	470-610			140-181

^{b)} for flats and special sections, yield point can be – 10% and tensile strength can be ± 10%

^{c)} for thickness < 5 mm, mechanical properties should be agreed before order placement

EUROPE EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. B.S.	RUSSIA GOST	USA AISI/SAE
E295	Fe 490	Q275	St 50-2	A 50-2		St5ps-2	