

<b>Quality</b>	<b>E295</b> (Fe 490 – Fe 50 – St 50-2)	<i>Technical card</i>
According to standards	<b>EN 10025-2: 2004</b>	<b>Trafilix</b>
Number	<b>1.0050</b>	<i>Lucefin Group</i>

### Chemical composition

C%	Si%	Mn%	P%	S%	N%	Cu%	Al%	
			max	max	max			
--	--	--	0,045	0,045	0,012 <sup>a)</sup>	--	--	<b>Cast analysis</b>
--	--	--	0,055	0,055	0,014 <sup>b)</sup>	--	--	<b>Product analysis</b>

Metod of deoxidation FN rimming steel not permitted

a) the max value does not apply if the chemical composition shows a minimum total Al content of 0.020%

b) the max value does not apply if the chemical composition shows a minimum total Al content of 0.015%

### Temperature °C

Hot forming	Normal treatment	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
				<b>C30E – C35E</b>		
In some cases the piece can be normalized and tempered or quenched and tempered				Preheating welding	Stress relieving after welding	
<b>Normalizing and Tempering</b>	<b>Quenching and Tempering</b>	<b>Stress relieving</b>	<b>End quench hardenability</b>	100	slow cooling	
880 air	860 water	50 under the temperature of tempering	--			
540-650 air	550-650 air			<b>Ac1</b>	<b>Ac3</b>	<b>Ms</b>
				730	810	400
						<b>Mf</b>
						180

### Mechanical properties

**Hot formed – hot rolled - rod** EN 10025-2: 2004 **E295** ( the normalizing is advised )

Testing at room temperature

dimension mm		R	dimension mm		R <sub>eH</sub> min	dimension mm		A% L	A% T	HB
over	to	N/mm <sup>2</sup>	over	to	N/mm <sup>2</sup>	over	to	min	min	
	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	<b>Kv + 20°C J min</b>		
--	--	--	150	200	235	10	150	--	--	
--	--	--	200	250	225	150	250	--	--	

**Cold drawn +C** prEN 10277-2: 2007 **E295GC** 1.0533

**Hot rolled – Peeled Reeled +SH**

dimension mm		Testing at room temperature (longitudinal)				Testing at room temperature (longitudinal)			
over	to	R <sup>b)</sup>	R <sub>p 0.2</sub> <sup>b)</sup>	A%	HB	R	R <sub>p 0.2</sub>	A%	HB
		N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min		N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min	
5 <sup>c)</sup>	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 strenght can be ± 10%

c) for thickness below 5 mm mechanical properties can be agreed before order placement

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