METALLURGICA VENETA
ACCIAI SPECIALI

36SMn14

Certified Company

Quality	36SMn14
According to standard	EN 10087: 2000
Number	1.0764

Chemical composition

C%	Si% max	Mn%	P% max	S%	Pb%	
0,32-0,39	0,40	1,30-1,70	0,06	0,10-0,18		Deviations allowed for analysis product
± 0.03	+ 0.03	± 0.06	+ 0.008	± 0.03		

Temperature °C

Hot-forming	Natural state	Soft annealing	Carburizing	Hardening on carburized surface	Stress-relieving
1250-950	(HB 228 max)	680 air	850-900	770-810 water / oil / salt bath	180-200

				Pre-heating welding	Stress-relieving after welding
Normalizing	**Direct hardening**	**Directhardening**	**Stress-relieving**	not recommended	

900 air	880 water	890 oil or polymer	150-200 furnace cooling

Ac1	Ac3	Ms	Mf
710	770	345	130

Mechanical properties

Hot-rolled natural forming condition EN 10087: 2000
Testing at room temperature (longitudinal)

size mm from	to	R N/mm²	*HB for information*
5	10	580-770	*172-231*
10	16	580-770	*172-231*
16	40	560-750	*166-222*
40	63	560-740	*166-219*
63	100	550-740	*163-219*

Hot-rolled quenched and tempered
Testing at room temperature (longitudinal)

R N/mm²	Rp 0.2 N/mm² min	A% min	*HB for inform.*
700-850	480	14	*213-253*
700-850	460	14	*213-253*
670-820	420	15	*203-246*
640-790	400	16	*198-237*
570-720	360	17	*169-223*

Cold-drawn +C EN 10277-3: 2008
Values valid also for +C+SL
Testing at room temperature (longitudinal)

size mm from	to	R [a] N/mm²	Rp 0.2 [a] N/mm² min	A% min	*HB for inform.*
5 [b]	10	660-960	500	6	*202-290*
10	16	620-920	440	6	*190-275*
16	40	600-900	390	7	*178-271*
40	63	580-840	360	8	*172-250*
63	100	560-820	340	9	*162-246*

Hot-rolled peeled-reeled +SH
Values valid also for +SH+SL
Testing at room temperature (longitudinal)

R N/mm²	Rp 0.2 N/mm² min	A% min	HB
560-750			166-222
560-740			166-219
550-740			163-219

[a] for flats and special sections, yield point can be – 10% and tensile strength can be ± 10%

[b] for thickness < 5 mm, mechanical properties should be agreed before order placement

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Table of tempering values obtained at room temperature on rounds of Ø 10 mm after quenching at 850 °C in water

HB	421	421	409	381	344	294	247
HRC	45	45	44	41	37	31	24
R N/mm²	1480	1480	1430	1300	1140	970	820
Tempering at **°C**	**50**	**100**	**200**	**300**	**400**	**500**	**600**

HRC hardness after quenching at 845 °C in oil

diameter mm	**surface**	**½ radius**	**core**
12,5	48	43	42
25	34	28	23
50	28	22	*18*
100	21	*18*	*16*