




Product range

Steel category	Supplied condition	Size range mm	Tolerance	Colour coding end face
HSX [®] 110	drawn, round	10 – 45	h11	 orange
HSX [®] 130	drawn, round	17 – 55	h11	 red
HSX [®] Z12	peeled, round	18 – 62	h11	 purple

Chemical analysis

Melt analysis % by weight (typical values)

	C	Si	Mn	S	Cr	Mo
HSX [®] 110	0,39	0,75	1,40	0,035		
HSX [®] 130	0,18	1,20	1,60	0,15	1,20	0,30
HSX [®] Z12	0,18	1,20	1,60	0,15	1,20	0,30

Mechanical properties

Typical values

HSX® 110 HSX® 130 HSX® Z12

Static						
Proof stress	R _{p0,2}	N/mm ²	min.	950	1200	800
Tensile strength	R _m	N/mm ²	min.	1050	1250	950
			max.	1200	1400	1200
Elongation	A ₅	%	min.	8	6	12
Hardness						
HRC				ca. 35	ca. 42	ca. 31
HB				ca. 330	ca. 395	ca. 300
Notched impact energy	AV _{RT}	J	ca.	10	20	40
	AV _{-20°C}	J	ca.	8	16	20
Dynamic						
Tension/compression	σ _w	N/mm ²		ca. 485	ca. 545	ca. 485
Pulsating	σ _{sch}	N/mm ²		ca. 385	ca. 445	ca. 385
Reverse bending	σ _{bw}	N/mm ²		ca. 515	ca. 585	ca. 525

The fatigue limits were established on smooth specimens.