

Technical data sheet – S355JR (1.0045)

- Unalloyed mild steel with guaranteed minimum mechanical values
- With special cold formability also 1.0551; S355JRC
- Easily weldable

Applications: simple applications in mechanical engineering

Chemical composition (acc. DIN EN 10025-2 (10/2019))

mass fraction in %				
S355JR	C [%]	Si [%]	Mn [%]	Cr [%]
	≤ 0,24	≤ 0,55	≤ 1,60	≤ 0,29
	P [%] max.	S [%] max.	Mo [%]	N [%]
	0,035	0,035	≤ 0,11	≤ 0,012
	Ni [%]	Cu [%]		
	≤ 0,42	≤ 0,55		

ISO 9001: 2015 TÜV NORD certified.

Mechanical properties (acc. DIN EN 10025-2 (10/2019))

Dimensions	Yield strength (Re)	Temperature
<= 16 mm	>= 355 MPa	~ 20 ° C
16 - 40 mm	>= 345 MPa	~ 20 ° C
40 - 63 mm	>= 335 MPa	~ 20 ° C
63 - 80 mm	>= 325 MPa	~ 20 ° C
80 - 100 mm	>= 315 MPa	~ 20 ° C
100 - 150 mm	>= 295 MPa	~ 20 ° C
150 - 200 mm	>= 285 MPa	~ 20 ° C
200 - 250 mm	>= 275 MPa	~ 20 ° C
250 - 400 mm	>= 265 MPa	~ 20 ° C

Dimensions	Tensile strength (Rm)	Temperature
<= 3 mm	510 - 680 MPa	~ 20 ° C
3 - 100 mm	470 - 630 MPa	~ 20 ° C
100 - 150 mm	450 - 600 MPa	~ 20 ° C
150 - 250 mm	450 - 600 MPa	~ 20 ° C
250 - 400 mm	450 - 600 MP	~ 20 ° C

Elongation (A 5,65)

Dimensions	Value	Sample location	Temperature
3 - 40 mm	>= 22 %	longitudinal	~ 20 ° C
3 - 40 mm	>= 20 %	transversal	~ 20 ° C
40 - 63 mm	>= 21 %	longitudinal	~ 20 ° C
40 - 63 mm	>= 19 %	transversal	~ 20 ° C
63 - 100 mm	>= 20 %	longitudinal	~ 20 ° C
63 - 100 mm	>= 18 %	transversal	~ 20 ° C
100 - 150 mm	>= 18 %	longitudinal	~ 20 ° C
100 - 150 mm	>= 18 %	transversal	~ 20 ° C
150 - 250 mm	>= 17 %	longitudinal	~ 20 ° C
150 - 250 mm	>= 17 %	transversal	~ 20 ° C
250 - 400 mm	>= 17 %	longitudinal	~ 20 ° C
250 - 400 mm	>= 17 %	transversal	~ 20 ° C

ISO 9001: 2015 TÜV NORD certified.

Elongation (A 80 mm)

Dimension	Value	Sample location	Temperature
<= 1 mm	>= 14 %	längs	~ 20 ° C
<= 1 mm	>= 12 %	quer	~ 20 ° C
1 - 1,5 mm	>= 15 %	längs	~ 20 ° C
1 - 1,5 mm	>= 13 %	quer	~ 20 ° C
1,5 - 2 mm	>= 16 %	längs	~ 20 ° C
1,5 - 2 mm	>= 14 %	quer	~ 20 ° C
2 - 2,5 mm	>= 17 %	längs	~ 20 ° C
2 - 2,5 mm	>= 15 %	quer	~ 20 ° C
2,5 - 3 mm	>= 18 %	längs	~ 20 ° C
2,5 - 3 mm	>= 16 %	quer	~ 20 ° C

ISO-V/Charpy-V

Dimension	Value	Temperature
<= 150 mm	>= 27 J	~ 20 ° C
150 - 250 mm	>= 27 J	~ 20 ° C

ISO 9001: 2015 TÜV NORD certified.