

Material properties

Material	304 (USA / AISI)
Group	Stainless and heat resisting steels
Subgroup	SAE AMS-QQ-S-763

Comment

Application	Corrosion-resistant steel bars, wire, shapes (sections), and forgings. The material may be made by one or more of the following processes: electric furnace, electric induction, vacuum furnace or other suitable commercial processes. If a specific melting practice is required by the purchaser, it shall be specified on the purchase order.
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Yield Stress[MPa]			
Dimension	Min	Max	Approx
> 12.7mm; Annealed (Cold)	207	-	-
> 12.7 mm - Annealed (Hot)	207	-	-
12.7 - 19.05 mm, Cold worked	689	-	-
19.06 - 25.4 mm, Cold worked	552	-	-
25.5 - 31.75 mm, Cold worked	448	-	-
31.76 - 38.1 mm, Cold worked	345	-	-
38.2 - 44.5 mm, Cold worked	310	-	-
> 44.5 mm, Cold worked	207	-	-

Tensile Stress[MPa]			
Dimension	Min	Max	Approx
> 12.7mm; Annealed (Cold)	517	-	-
> 12.7 mm - Annealed (Hot)	517	-	-
12.7 - 19.05 mm, Cold worked	862	-	-
19.06 - 25.4 mm, Cold worked	793	-	-
25.5 - 31.75 mm, Cold worked	754	-	-
31.76 - 38.1 mm, Cold worked	689	-	-
38.2 - 44.5 mm, Cold worked	655	-	-
> 44.5 mm, Cold worked	517	-	-

Elongation A5 [%]			
Dimension	Min	Max	Approx
> 12.7mm; Annealed (Cold)	30.0	-	-
> 12.7 mm - Annealed (Hot)	40.0	-	-
12.7 - 19.05 mm, Cold worked	12.0	-	-
19.06 - 25.4 mm, Cold worked	15.0	-	-
25.5 - 31.75 mm, Cold worked	20.0	-	-
31.76 - 38.1 mm, Cold worked	28.0	-	-
38.2 - 44.5 mm, Cold worked	30.0	-	-
> 44.5 mm, Cold worked	35.0	-	-

Chemical Composition [%]			
Criterion	Min	Max	Approx
C	-	0.1500	-
Si	-	1.0000	-
Mn	-	2.0000	-
P	-	0.0450	-
S	-	0.0300	-
Cr	18.000	20.000	-
Mo	-	1.0000	-
Ni	8.0000	10.500	-
Cu	-	1.0000	-
N	-	0.1000	-

Cross Reference Table		
Material	Standard	Country
S 130	B.S.	United Kingdom
304 S 11	B.S.	United Kingdom
304 S 15	B.S.	United Kingdom
304 S 16	B.S.	United Kingdom
304 S 17	B.S.	United Kingdom
304 S 31	B.S.	United Kingdom
304 S 51	B.S.	United Kingdom
304 S 61	B.S.	United Kingdom

Cross Reference Table		
Material	Standard	Country
304 S 71	B.S.	United Kingdom
321 S 31	B.S.	United Kingdom
321 S 51-520	B.S.	United Kingdom
321 S 51-490	B.S.	United Kingdom
321 S 51-510	B.S.	United Kingdom
347 S 31	B.S.	United Kingdom
347 S 51	B.S.	United Kingdom
LW 21	B.S.	United Kingdom
S 160	B.S.	United Kingdom
S 524	B.S.	United Kingdom
S 536	B.S.	United Kingdom
HS 37/23	B.S.	United Kingdom
Cr Ni 18/9-0.07C	B.S.	United Kingdom
CrNi 19/9-0.07C	B.S.	United Kingdom
HFS 304S11	B.S.	United Kingdom
LW 304S11	B.S.	United Kingdom
HFS 304S31	B.S.	United Kingdom
LW 304S31	B.S.	United Kingdom
CFS 304S11	B.S.	United Kingdom
HFM 304S11	B.S.	United Kingdom
304S11-E	B.S.	United Kingdom
304S11-LT	B.S.	United Kingdom
LWHT 304S11	B.S.	United Kingdom
LWCF 304S11	B.S.	United Kingdom
17240	CSN	Czech Republic
0Cr18Ni9	GB	China
0Cr19Ni9	GB	China
1Cr19Ni9	GB	China
1.4301	WN	Germany
X 39 Cr 13	EN	European Union
1.4301	EN	European Union
Z 5 CN 17-08	AFNOR NF	France
Z 7 CN 18-09	AFNOR NF	France
X 7 CrNi 18 10	UNI	Italy
SUS 304	JIS	Japan

Cross Reference Table		
Material	Standard	Country
2332	SS	Sweden
725 (X 4 CrNi 18 9)	SFS	Finland
O H 18 N 9	PN	Poland
304	AS	Australia
14350	NS	Norway
KO 33	MSZ	Hungary
30304	SAE	USA
304	SAE	USA
J92610	UNS	USA
S30400	UNS	USA
A 580 Type 304	ASTM	USA
A 193 B8	ASTM	USA
A 193 B8A	ASTM	USA
A 194 Grade 8	ASTM	USA
A 194 Grade 8A	ASTM	USA
A 320 B8	ASTM	USA
A 320 B8A	ASTM	USA
A 336 Grade F304	ASTM	USA
A 430 FP 304	ASTM	USA
A 511 MT304	ASTM	USA
A 312 TP304	ASTM	USA
A 403 WP 304	ASTM	USA
A 492 Type 304	ASTM	USA
A 240 Type 304	ASTM	USA
A 368 Type 304	ASTM	USA
A 493 Type 304	ASTM	USA
A 666 Type 304	ASTM	USA
A 376 TP304	ASTM	USA
A 213 TP304	ASTM	USA
A 249 TP304	ASTM	USA
A 269 TP304	ASTM	USA
A 409 TP304	ASTM	USA
A 249 TPXM-29	ASTM	USA
A 478 Type 304	ASTM	USA
A 473 304	ASTM	USA

Cross Reference Table		
Material	Standard	Country
A 358 304	ASTM	USA
A 276 304	ASTM	USA
A 314 304	ASTM	USA
A 270 TP304	ASTM	USA
A 943 TP304	ASTM	USA
A 554 MT 304	ASTM	USA
A 632 Grade TP 304	ASTM	USA
A 688 Grade TP 304	ASTM	USA
A 813 Grade TP 304	ASTM	USA
A 814 Grade TP 304	ASTM	USA
A 851 Grade TP 304	ASTM	USA
A 908 304	ASTM	USA
A 313 Type 304	ASTM	USA
5 NiCr 180	STAS	Romania