

Wire Hardness

Hardness can vary from vary from very soft (dead soft annealed) to very hard (spring temper).

Typical Tensile Strength Ranges and Hardness by Type (inch & psi)

Size & Hardness	TYPE 302	TYPE 304	TYPE 316	TYPE 430
0.002" – 0.030"	PSI	PSI	PSI	PSI
Dead Soft Annealed	90,000-110,000	90,000-110,000	85,000-105,000	75,000-85,000
Annealed	100,000-135,000	100,000-135,000	95,000-130,000	85,000-95,000
1/4 Hard	140,000-190,000	140,000-175,000	130,000-165,000	90,000-110,000
1/2 Hard	190,000-240,000	180,000-215,000	160,000-190,000	110,000-130,000
3/4 Hard	240,000-290,000	220,000-265,000	195,000-235,000	130,000-150,000
Full Hard/Spring Temper	290,000-360,000	270,000-350,000	240,000-280,000	150,000-200,000
Size & Hardness	TYPE 302	TYPE 304	TYPE 316	TYPE 430
0.030" – 0.125"	PSI	PSI	PSI	PSI
Dead Soft Annealed	85,000-105,000	85,000-105,000	85,000-100,000	75,000-85,000
Annealed	95,000-115,000	95,000-115,000	95,000-115,000	85,000-95,000
1/4 Hard	120,000-160,000	120,000-155,000	120,000-145,000	90,000-110,000
1/2 Hard	165,000-230,000	160,000-210,000	150,000-180,000	110,000-130,000
3/4 Hard	195,000-270,000	190,000-255,000	185,000-225,000	130,000-150,000
Full Hard/Spring Temper	230,000-315,000	225,000-300,000	215,000-270,000	140,000-170,000
Size & Hardness	TYPE 302	TYPE 304	TYPE 316	TYPE 430
0.125" – 0.250"	PSI	PSI	PSI	PSI
Dead Soft Annealed	75,000-95,000	75,000-95,000	75,000-95,000	70,000-90,000
Annealed	90,000-110,000	90,000-110,000	90,000-110,000	70,000-90,000
1/4 Hard	115,000-140,000	115,000-140,000	115,000-130,000	90,000-105,000
1/2 Hard	145,000-170,000	145,000-170,000	135,000-155,000	105,000-120,000
3/4 Hard	175,000-200,000	175,000-200,000	160,000-185,000	120,000-140,000
Full Hard/Spring Temper	205,000-240,000	205,000-240,000	190,000-220,000	130,000-145,000

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Typical Tensile Strength Ranges and Hardness by Type (mm & MPa)

Size & Hardness	TYPE 302	TYPE 304	TYPE 316	TYPE 430
0.0508mm – 0.762mm	MPa	MPa	MPa	MPa
Dead Soft Annealed	621-759	621-759	587-724	518-587
Annealed	690-931	690-931	656-897	587-656
1/4 Hard	966-1311	966-1207	897-1138	621-759
1/2 Hard	1311-1655	1242-1483	1104-1311	759-897
3/4 Hard	1655-2000	1517-1828	1345-1621	897-1035
Full Hard/Spring Temper	2000-2483	1862-2414	1655-1931	1035-1379
Size & Hardness	TYPE 302	TYPE 304	TYPE 316	TYPE 430
0.762mm – 3.175mm	MPa	MPa	MPa	MPa
Dead Soft Annealed	587-724	587-724	587-690	518-587
Annealed	656-793	656-793	656-793	587-656
1/4 Hard	828-1104	828-1069	828-1000	621-759
1/2 Hard	1138-1586	1104-1448	1035-1242	759-897
3/4 Hard	1345-1862	1311-1759	1276-1552	897-1035
Full Hard/Spring Temper	1586-2172	1552-2069	1483-1862	966-1173
Size & Hardness	TYPE 302	TYPE 304	TYPE 316	TYPE 430
3.175mm – 6.35mm	MPa	MPa	MPa	MPa
Dead Soft Annealed	518-656	518-656	518-656	518-656
Annealed	621-759	621-759	621-759	621-759
1/4 Hard	793-966	793-966	793-897	793-897
1/2 Hard	1000-1173	1000-1173	931-1069	931-1069
3/4 Hard	1207-1379	1207-1379	1104-1276	1104-1276
Full Hard/Spring Temper	1414-1655	1414-1655	1311-1517	1311-1517