

## STAINLESS STEEL BALLS TYPE 420

AISI type 420 stainless steel balls afford the advantage of maximum hardness combined with corrosion-resisting properties. This hardness, together with precise geometry and fine surface finish, makes them especially useful for both bearing and valve applications, as well as writing instruments and lighters.

### 420 Stainless Steel Balls: Available Grades and Sizes

Grade	Size Range in Inches and Millimeters	
Pen	1/64 - 1/16	.3mm - 1.580mm
24 - 1000	.01968 - 2	5mm - 50.800mm

Balls per Pound		
Size		Balls per Pound
Inches	Millimeters	
3/32	2.381	8,000
1/8	3.175	3,420
5/32	3.968	1,750
3/16	4.762	1,010
7/32	5.556	638
1/4	6.350	427
9/32	7.143	300
5/16	7.927	219
11/32	8.731	164
3/8	9.525	127
13/32	10.318	99.6
7/16	11.112	79.7
15/32	11.906	64.8
1/2	12.700	53.4
17/32	13.493	44.5
9/16	14.287	37.5
19/32	15.081	31.9
5/8	15.875	27.4
21/32	16.668	23.6
11/16	17.462	20.6
23/32	18.256	18.0
3/4	19.050	15.8
25/32	19.843	14.0
13/16	20.637	12.5
27/32	21.431	11.1

Balls per Pound		
Size		Balls per Pound
Inches	Millimeters	
7/8	22.225	9.97
29/32	23.018	8.97
15/16	23.812	8.10
31/32	24.606	7.35
1	25.400	6.68
1 1/8	28.575	4.69
1 1/4	31.750	3.42
1 3/8	34.925	2.57
1 1/2	38.100	1.98
1 5/8	41.275	1.56
1 3/4	44.450	1.26
1 7/8	47.625	1.02
2	50.800	.844

### Material Analysis:

All sizes and grades are of the highest quality and in accordance with ASTM 756. Passivation to ASTM A380 is available upon request.

Material	AISI	Federal	Military	ASTM	UNS	AMS
Type 420	420	QQ-S-763	MS 19060	A-756	S-42000	5630

### Chemical Analysis:

Carbon	0.30% maximum
Chromium	12.0% to 14.0%
Manganese	1.0% maximum
Silicon	1.0% maximum
Nickel	0.25% to 1.0%
Phosphorus	0.04% maximum
Sulphur	0.03% maximum

**Mechanical Properties:**

Hardness as measured on parallel flat surfaces is Rockwell "C" 52.

Tensile Strength	95,000 to 250,000 psi
Yield Strength	50,000 to 215,000 psi
Elongation in two inches	8.0% to 25.0%
Reduction in area	25.0% to 55.0%
Modulus of elasticity	29,000,000 psi
Density	0.279 lbs./cu. in.

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