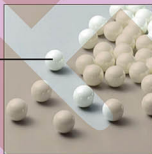


Ceramic Rolling Balls & Ceramic Round Balls

- ✓ Ceramic ZrO₂ / Si₃N₄ / SiC / Al₂O₃ materials
- ✓ Diameter Φ 0.4 mm to 115 mm and 1/32 inch to 2 inch
- ✓ Various precision grades, ROHS Compliant

Zirconia
ZrO₂ ceramic balls



Silicon Nitride
Si₃N₄ ceramic balls



Silicon Carbide
SiC ceramic balls



Aluminium Oxide
Al₂O₃ ceramic balls





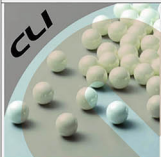
Ceramic Rolling Balls / Ceramic Round Balls

Ceramic balls are spherical, rolling elements that provide higher stiffness, lower thermal expansion, lighter weight, increased corrosion resistance, and higher electrical resistance than steel balls. They are made from a variety of ceramic materials.

CLI Bearing provide a wide range of ceramic ball options across a variety of sizes. Material options include Silicon nitride (Si₃N₄), Zirconia (ZrO₂), Aluminium Oxide (Al₂O₃) and Silicon carbide (SiC) from 0.4 mm to just over 115 mm in diameter with the most common sizes in between. Precision grades provided are G5, G10, G16, G25 and G100 grades.

Different ceramic material have different properties, here is the introduction of ceramic materials and their properties.

• Ceramic Materials

Pictures	Ceramic Balls & Materials			
				
Basic Info	ZrO₂	Si₃N₄	SiC	Al₂O₃
Density	6.0 g/cm ³	3.2 g/cm ³	3.15 g/cm ³	3.93 g/cm ³
Color	White	Black	Black	Ivory
Grade	G5 to G2000	G5 to G2000	G10 to G2000	G5 to G2000
Ball Size (Diameter)	Φ= 0.5 mm to 35 mm Φ= 1/32" to 2"	Φ= 0.5 mm to 35 mm Φ= 1/32" to 2"	Φ= 0.5 mm to 35 mm Φ= 1/32" to 2"	Φ= 0.5 mm to 35 mm Φ= 1/32" to 2"

• Precision Grades of Ceramic Ball

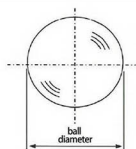
CERAMIC BALL GRADES					
Grade	Diameter Tolerance per Batch		Sphericity		Maximum Surface Roughness
	Inch	µm	Inch	µm	Micro Inch
G5	0.0021	0.25	0.00205	0.127	0.80
G10	0.0002	0.51	0.0001	0.25	1.00
G16	0.0005	1.27	0.00025	0.63	1.50
G25	0.0011	2.5	0.0005	1.27	3.00
G100	0.0002	5	0.0001	2.5	5.00
G200	0.0004	10	0.0002	5	8.00
G500	0.001	25	0.0005	12.5	Not Available
G1000	0.002	50	0.001	25	Not Available
G2000	0.004	100	0.002	50	Not Available

• Typical Applications of Ceramic Ball Grades

Ball Grade	Application
G5, G10	High precision bearings, Gauges
G25	Precision bearings
G100	Bearings, drawer
G200	Soap dispensers, Body jewellery
G500	Automotive seat slides, Bicycles
G1000	Castors, Unground bearings
G2000	Agitators, Decorative uses, Weights, Ballast

- There are a variety of different ceramic materials, each with their own capabilities, advantages and disadvantages; their use in bearing and rolling element applications was pioneered by many of the space agencies and continues to be at the forefront of engineering technology.

Ceramic Materials		99.5%-AL2O3	SiC	HP-Si3N4	GPS-Si3N4	ZrO2- Y2O3
Mechanical Properties	Units	Metric/Imperial	Metric/Imperial	Metric/Imperial	Metric/Imperial	Metric/Imperial
Density	g/cm3 (lb/ft3)	3.89(242.8)	3.1 (193.5)	3.29(205.4)	3.27(204)	6.04 (205.4)
Porosity	%(%)	0(0)	0 (0)	0(0)	0(0)	0(0)
Color	-	ivory	black	black	black	ivory
Flexural Strength	MPa (lb/in2x103)	379(55)	550 (80)	830(120.4)	689(100)	900(120.4)
Elastic Modulus	GPa (lb/in2x103)	375(54.4)	410 (59.5)	310(45)	310(45)	200(45)
Shear Modulus	GPa (lb/in2x106)	152(22)	-	-	-	-
Bulk Modulus	GPa (lb/in2x106)	228(33)	-	-	-	-
Poisson's Ratio	-	0.22(0.22)	0.14 (0.14)	0.27(0.27)	0.24(0.24)	-
Compressive Strength	MPa (lb/in2x103)	2600(377)	3900 (566)	-	-	-
Hardness	Kg/mm2	1440	2800	1580	1450	1300
Fracture Toughness KIC	MPa•m1/2	4	4.6	6.1	5.7	13
Maximum Use Temperature (no load)	°C(°F)	1750(3180)	1650 (3000)	1000(1830)	1000(1830)	1500 (2730)
Thermal	Units	Metric/Imperial	Metric/Imperial	Metric/Imperial	Metric/Imperial	Metric/Imperial
Thermal Conductivity (BTU•in/ft2•hr•°F)	W/m•K	35(243)	120 (830)	30(208)	29(201)	2 (13.9)
Coefficient of Thermal Expansion	10-6/°C (10-6/°F)	8.4(4.7)	4.0 (2.2)	3.3(1.8)	3.3(1.8)	10.3 (5.7)
Specific Heat	J/Kg•°K (Btu/lb•°F)	880(0.21)	750 (0.18)	-	-	-
Electrical	Units	Metric/Imperial	Metric/Imperial	Metric/Imperial	Metric/Imperial	Metric/Imperial
Dielectric Strength	ac-kv/mm (volts/mil)	16.9(420)	semiconductor semiconductor	-	-	-
Dielectric Constant	@ 1 MHz@ 1 MHz	9.8(9.8)	-	-	-	-
Volume Resistivity	ohm•cm	>1014	102-106	-	-	>1010



1/32" = Standard Ball Diameter
Optional: other Standard Ball Size

CERB (+Ceramic Round Ball)

CERB-ZR-1/32"-G100

G100 = Standard Precision Grade
Optional: G5/G10/G25/G500/G1000/G2000

ZR ceramic balls (+ ZrO2 ceramic)
Optional: SI (+Si3N4 ceramic balls)
SC (+SiC ceramic balls)
AL (+AlN ceramic balls)

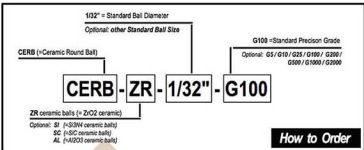
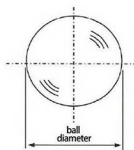
How to Order

Part Type	Diameter	Grade	Maximum Temperature	Density	Hardness	Sphericity
CERB-ZR	1/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	1/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	5/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	3/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	7/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	1/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	5/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	3/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	7/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	15/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	1/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	17/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	9/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	5/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	11/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	3/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	13/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	13/31"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	7/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	29/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	15/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	31/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	1/2"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	17/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	9/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	19/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	5/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	21/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	11/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	23/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	3/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	25/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	13/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	7/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	29/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	15/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%

[illegible]

CERB-ZR	20.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	21.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	22.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	23.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	24.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	25.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	26.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	28.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	30.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%
CERB-ZR	35.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	400°C 1352°F	6.00 g/cm ³	70 HRC	100.00%



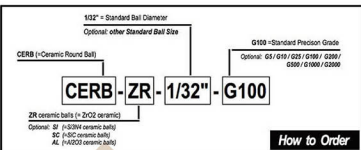
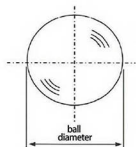


Part Type	Diameter	Grade	Maximum Temperature	Density	Hardness	Sphericity
CERB-SI	1/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	1/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	5/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	3/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	7/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	1/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	5/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	3/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	7/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	15/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	1/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	17/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	9/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	5/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	11/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	3/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	13/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	13/31"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	7/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
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CERB-SI	31/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	1/2"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	17/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	9/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	19/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	5/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	21/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	11/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	23/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	3/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	25/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	13/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	7/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	29/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	15/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	1"	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 2704°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%

[illegible]

CERB-SI	21.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	22.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	23.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	24.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	25.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	26.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	28.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	30.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%
CERB-SI	35.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	800°C 27040°F	3.20~3.30 g/cm ³	75~80 HRC	100.00%



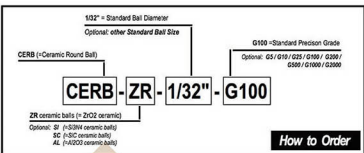
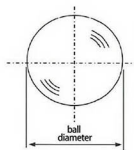


CERB-SC	3/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	7/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	15/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	17/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	9/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	5/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	11/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	3/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	13/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	13/31"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	7/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	29/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	15/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	31/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1/2"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	17/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	9/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	19/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	5/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	21/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	11/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	23/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	3/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	25/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	13/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	7/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	29/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	15/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1 1/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1 1/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	19/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	5/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1 3/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1 1/2"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1 5/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%
CERB-SC	1 11/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm ³	85-90 HRC	100.00%

[illegible]

CERB-SC	35.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1200°C 40560°F	3.10 g/cm3	85-90 HRC	100.00%
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Part Type	Diameter	Grade	Maximum Temperature	Density	Hardness	Sphericity
CERB-AL	1/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	1/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	5/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	3/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	7/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	1/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	5/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	3/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	7/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	15/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	1/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	17/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	9/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	5/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	11/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	3/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	13/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	13/31"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	7/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	29/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	15/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	31/64"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	1/2"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	17/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	9/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	19/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	5/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	21/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	11/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	23/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	3/4"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	25/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	13/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	7/8"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	29/32"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	15/16"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	1"	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%

[illegible]

CERB-AL	21.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	22.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	23.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	24.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	25.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	26.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	28.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	30.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%
CERB-AL	35.0mm	G5/G10/G25/G100/G200/G500/G1000/G2000	1000°C 3380°F	3.95 g/cm ³	80 HRC	100.00%

