



KMR[®]
B E A R I N G



www.kumarbearing.com

We, "KUMAR Industries", are considered to be one of the prominent manufacturers and suppliers of the finest quality of Industrial and Automobile Bearings. The product range offered by us consists of Automobile Bearing, Spherical Roller Bearing. Owing to their sturdy construction, compact design, thermal & mechanical stability and longer serving life, these bearings are highly demanded in the market. The offered bearing is available with us in various sizes, designs and specifications, keeping the ease of our valuable customers in mind.

TAILOR FIT TO THE OEM'S NEEDS

For more than 5 years "KUMAR Industries" has partnered with leading Original Equipment Manufacturers, Providing Design, Engineering, and Testing Expertise to develop premium products and innovations for the industry.

"KUMAR Industries" has engineering excellence at its core. Our dedicated teams work to continually improve our products, while innovating for ever-changing market expectations. We also work hand-in-hand with OEMs to develop interior and exterior components.

We are always open to new ideas and partnerships and would love to hear from you. To contact someone from our innovation & strategic partnership department please email us <mailto:export@kumarbearing.com>





MANUFACTURING CAPABILITY

KMR manufacturers bearings according to standard tolerances and on Normal Class Clearance for specific requirements. In addition KMR has the equipments for super finishing of track for the bearing rings as well as rollers. Each bearing components. inner and outer rings and rollers have super finish which helps in achieving maximum bearing life.

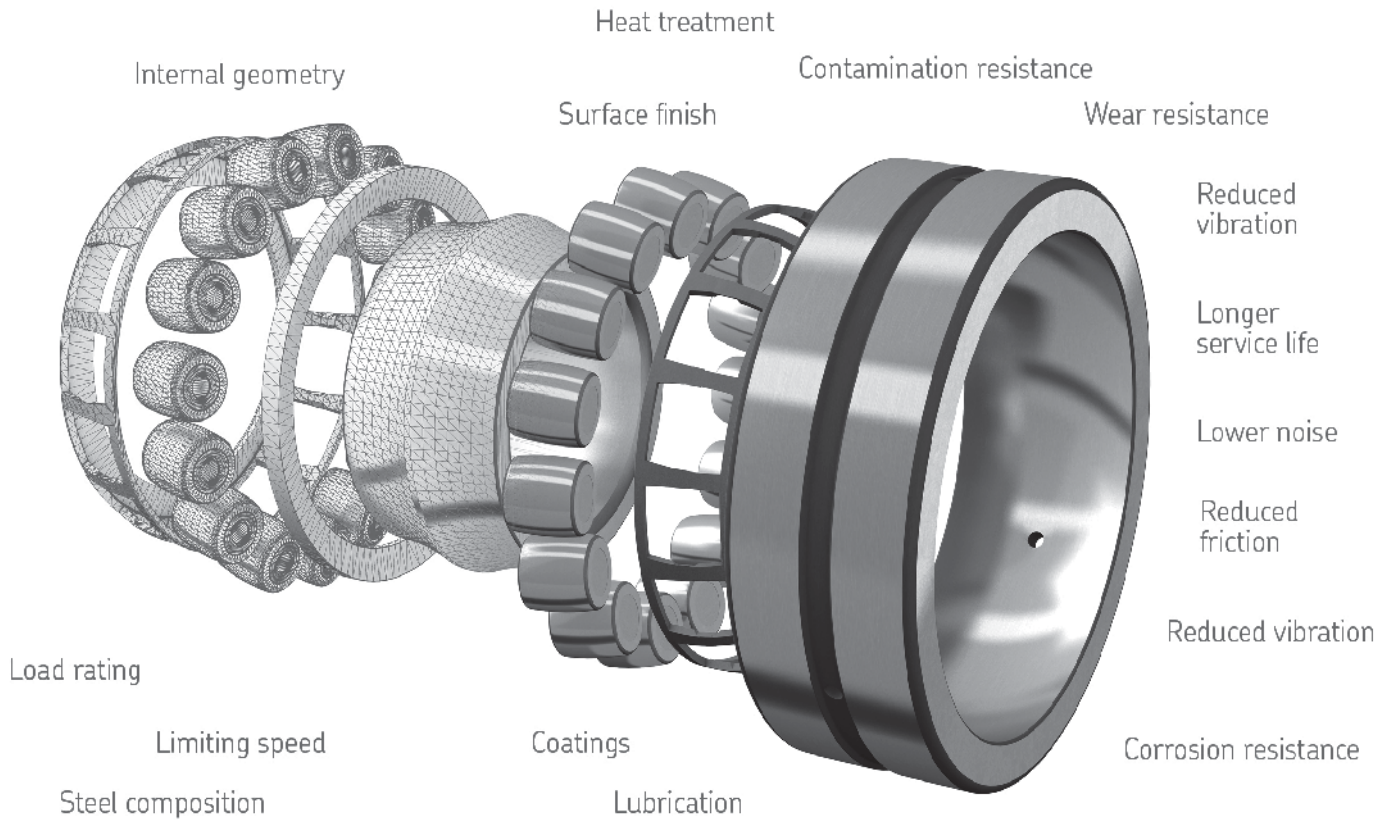
QUALITY CONTROL

Quality is an integral part of our culture and every effort is made to ensure that customer get value for money. KMR Factories follows in process quality control technique at each stage of manufacturing to achieve high standards. Our quality control room consists of the highest industry standard instruments like noise checking, vibrating checking, crowing checking, roundness tester, surface finish tester, profile projector and other calibrating equipments for the standard room. KMR also has fully fledged laboratory for micro structure and chemical analysis. 100% inspection of ID, OD, Width, Radial clearance and noise is done all bearings. a strong team of application engineers

APPLICATION ENGINEERING

KMR has willing to understand your application needs and provide appropriate solution by selecting the right bearing which fits your needs. Application engineering approach had helped gain a lot of customers confidence about our practical knowledge of the field of bearings. Our design team is capable of designing a custom solution for your needs and manufacturing it in a cost effective way.





SPHERICAL THRUST BEARING

Spherical bearing permits rotation with low friction, and permits angular misalignment. Typically, these bearings support a rotating shaft in the bore of the inner ring that may be misaligned in respect to the outer ring.



SPHERICAL BEARING BRASS CAGE

Spherical Roller Bearings - Brass Cage. Spherical bearings are designed to manage high radial loads even when misalignment, poor lubrication, contamination, extreme speeds or critical application stresses are present.



TAPPER ROLLER BEARING

Tapered roller bearings feature a cup and cone assembly. The cup is comprised of the outer ring and the cone assembly consists of inner ring, rollers, and cage. This bearing construction accommodates combined loads and provides low friction during operation. By adjusting one single row tapered roller bearing against a second tapered roller bearing and applying a preload, a rigid bearing application can be achieved.

Tapered roller bearings are also made to Explorer class. Explorer combines our expertise in bearing design, tribology, metallurgy, lubrication and manufacturing. Explorer tapered roller bearings are typically used in bearing solutions where there is a need to increase performance, reduce friction or increase power density in applications.



MANUFACTURING PROCESS



FORGING

Forging is a manufacturing process involving the shaping of a metal through hammering, pressing, or rolling. These compressive forces are delivered with a hammer or die. Forging is often categorized according to the temperature at which it is performed cold, warm, or hot forging. A wide range of metals can be forged.



ANNEALING

When bearing steels are in their soft (unhardened) state, metallurgists refer to their structure as being in the pearlite state. In order to harden the steel it must be heated to a very high temperature and then cooled very rapidly



CNC MACHINING

After Spheroidize Annealing the Bearing Rings are sent for CNC turning process. Each Rings undergoes Dimensional & Visual Checking.



HEAT TREATMENT

One of the Important Step for creating a highly durable & Long lasting Bearings is Heat Treatment Process. Our Heat treatment process consist of Hardening, Super Cooling and tempering which gives stabilized ring structure and increase the life span of bearings.



GRINDING

Grinding is a commonly used finishing process to produce components of desired shape, size and dimensional accuracy where the ultimate goal is to have the maximum workpiece quality, minimum machining time and high energetic efficiency by making a selective adaptation of the possible process strategy and chosen parameter selection.



SUPER FINISHING

Super finishing is a process in which a rotating workpiece is finished by a relatively soft stone with fine abrasive oscillating parallel to the workpiece surface which ensures best Roughness Values.



QUALITY CHECK

After being thoroughly cleaned, bearings should be examined for the condition of their raceways and external surfaces.



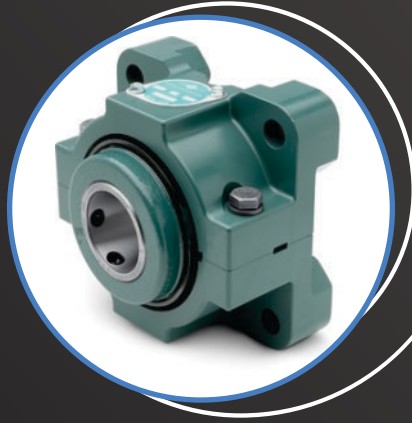
ASSEMBLY & PACKAGING

The assembly division is also well-equipped with all the machines and tools for measuring, matching and assembling to make a super finished bearing.

After assembling the components, bearings are neatly and securely packed under hygienic conditions. these are packed in individual boxes which are collectively packed in a master box for transportation.

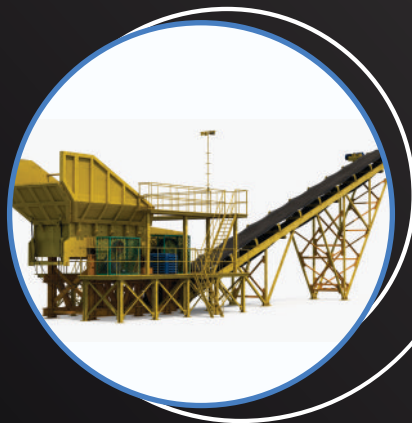
TAPERED ROLLER BEARING APPLICATION

Tapered roller bearings are typically used in applications with combined loads. Single row tapered roller bearings can also be used in sets. Tapered roller bearings can be matched face-to-face, back-to-back or in tandem to specific advantages depending on operating conditions.



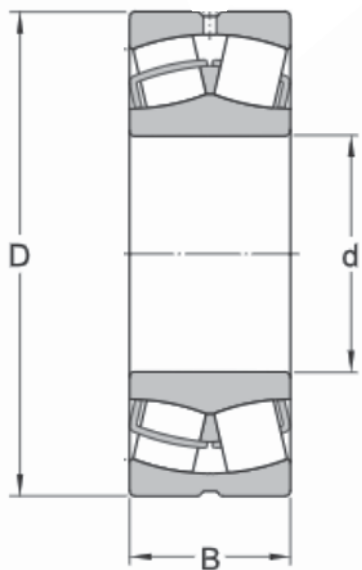
SHPERICAL BEARING APPLICATION

Spherical Roller Bearings. Spherical Roller Bearings are designed to work in applications where severe misalignment exists whether from mounting or shaft deflection and with relatively heavy radial loads and some axial loads in either direction.



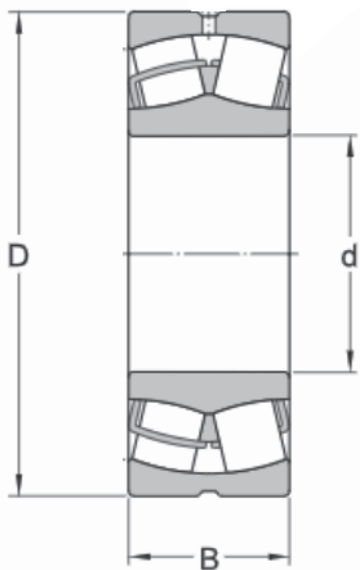
| SERIES | DIMENSION(mm) | | | LOAD RATING (kn) | | RPM (/MIN) Max | | WEIGHT (KG) |
|--------|---------------|-----|----|------------------|--------------|----------------|------|-------------|
| | d | D | B | STATIC(Cr) | DYNAMIC(Cor) | GREASE | OIL | WEIGHT |
| 21309 | 45 | 100 | 25 | 80 | 100 | 3200 | 3600 | 0.93 |
| 21310 | 50 | 110 | 27 | 105 | 125 | 2800 | 3800 | 1.18 |
| 21311 | 55 | 120 | 29 | 125 | 155 | 2600 | 3200 | 1.58 |
| 21312 | 60 | 130 | 31 | 150 | 180 | 2400 | 3100 | 1.92 |
| 21313 | 65 | 140 | 33 | 170 | 215 | 2200 | 3000 | 2.42 |
| 21314 | 70 | 150 | 35 | 200 | 255 | 2000 | 2700 | 2.96 |
| 21315 | 75 | 160 | 37 | 225 | 290 | 1800 | 2600 | 3.76 |
| 21316 | 80 | 170 | 39 | 250 | 340 | 1800 | 2200 | 4.14 |
| 21317 | 85 | 180 | 41 | 290 | 380 | 1600 | 2000 | 5.25 |
| 21318 | 90 | 190 | 43 | 310 | 415 | 1400 | 2000 | 5.70 |

Remark : All the bearings shown it above table will also be available with machined brass cage having suffix ' M '
All the bearings shown it above table will also be available with tapered bore having suffix ' K '



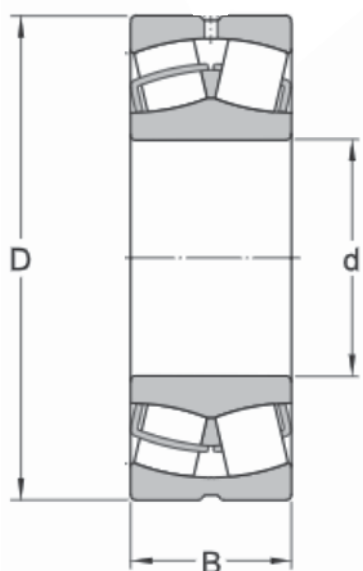
| SERIES | DIMENSION(mm) | | | LOAD RATING (kn) | | RPM (/MIN) Max | | WEIGHT (KG) |
|--------|---------------|-----|----|------------------|--------------|----------------|------|-------------|
| | d | D | B | STATIC(Cr) | DYNAMIC(Cor) | GREASE | OIL | WEIGHT |
| 22209 | 45 | 85 | 23 | 70 | 85 | 4000 | 5000 | 0.56 |
| 22210 | 50 | 90 | 23 | 70 | 95 | 3700 | 4600 | 0.61 |
| 22211 | 55 | 100 | 25 | 90 | 120 | 3300 | 4100 | 0.82 |
| 22212 | 60 | 110 | 28 | 115 | 155 | 3000 | 4000 | 1.14 |
| 22213 | 65 | 120 | 31 | 140 | 185 | 2600 | 3300 | 1.51 |
| 22214 | 70 | 125 | 31 | 150 | 195 | 2500 | 3100 | 1.57 |
| 22215 | 75 | 130 | 31 | 155 | 210 | 2300 | 3000 | 1.66 |
| 22216 | 80 | 140 | 33 | 165 | 230 | 2100 | 2800 | 2.00 |
| 22217 | 85 | 150 | 36 | 200 | 270 | 2000 | 2600 | 2.56 |
| 22218 | 90 | 160 | 40 | 230 | 320 | 1800 | 2400 | 3.35 |
| 22219 | 95 | 170 | 43 | 270 | 375 | 1800 | 2200 | 4.00 |
| 22220 | 100 | 180 | 46 | 300 | 420 | 1600 | 2200 | 4.79 |
| 22222 | 110 | 200 | 53 | 400 | 585 | 1300 | 1700 | 7.13 |
| 22224 | 120 | 215 | 58 | 465 | 680 | 1200 | 1600 | 8.65 |
| 22226 | 130 | 230 | 64 | 550 | 810 | 1000 | 1400 | 10.45 |
| 22228 | 140 | 250 | 68 | 625 | 935 | 900 | 1400 | 13.90 |

Remark : All the bearings shown it above table will also be available with machined brass cage having suffix ' M '
 All the bearings shown it above table will also be available with tapered bore having suffix ' K '



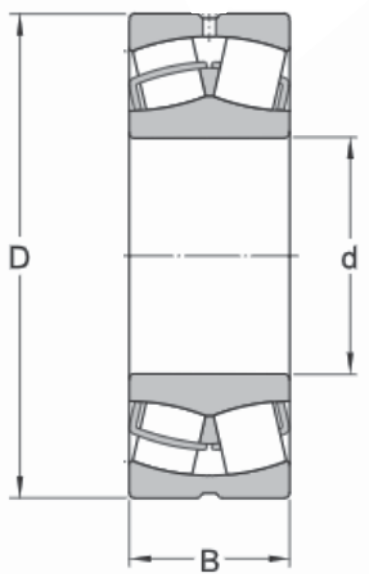
| SERIES | DIMENSION(mm) | | | LOAD RATING (kn) | | RPM (/MIN) Max | | WEIGHT (KG) |
|--------|---------------|-----|----|------------------|--------------|----------------|------|-------------|
| | d | D | B | STATIC(Cr) | DYNAMIC(Cor) | GREASE | OIL | WEIGHT |
| 22309 | 45 | 100 | 36 | 125 | 155 | 3400 | 4300 | 1.34 |
| 22310 | 50 | 110 | 40 | 160 | 195 | 3000 | 4100 | 1.82 |
| 22311 | 55 | 120 | 43 | 195 | 240 | 3000 | 3600 | 2.31 |
| 22312 | 60 | 130 | 46 | 225 | 275 | 2600 | 3300 | 2.86 |
| 22313 | 65 | 140 | 48 | 250 | 300 | 2300 | 3100 | 3.44 |
| 22314 | 70 | 150 | 51 | 280 | 350 | 1800 | 2500 | 4.26 |
| 22315 | 75 | 160 | 55 | 330 | 430 | 1800 | 2500 | 5.25 |
| 22316 | 80 | 170 | 58 | 375 | 480 | 1700 | 2400 | 6.00 |
| 22317 | 85 | 180 | 60 | 410 | 540 | 1700 | 2300 | 7.10 |
| 22318 | 90 | 190 | 64 | 470 | 625 | 1600 | 2000 | 8.52 |
| 22319 | 95 | 200 | 67 | 520 | 680 | 1300 | 1800 | 10.00 |
| 22320 | 100 | 215 | 73 | 600 | 825 | 1300 | 1700 | 12.72 |
| 22322 | 110 | 240 | 80 | 690 | 935 | 1200 | 1400 | 17.90 |
| 22324 | 120 | 260 | 86 | 825 | 1130 | 1100 | 1400 | 21.85 |

Remark : All the bearings shown it above table will also be available with machined brass cage having suffix ' M '
All the bearings shown it above table will also be available with tapered bore having suffix ' K '



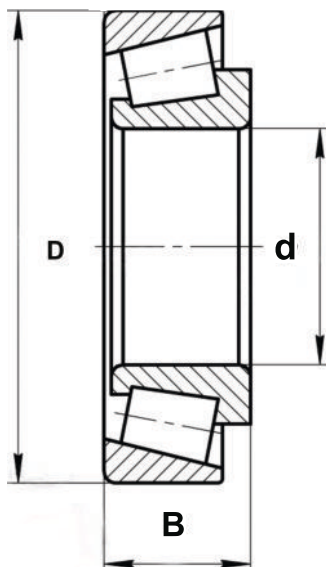
| SERIES | DIMENSION(mm) | | | LOAD RATING (kn) | | RPM (/MIN) Max | | WEIGHT (KG) |
|--------|---------------|-----|----|------------------|--------------|----------------|------|-------------|
| | d | D | B | STATIC(Cr) | DYNAMIC(Cor) | GREASE | OIL | WEIGHT |
| 24020 | 100 | 150 | 50 | 220 | 420 | 1200 | 1300 | 3.00 |
| 24022 | 110 | 170 | 60 | 350 | 570 | 1200 | 2000 | 4.90 |
| 24024 | 120 | 180 | 60 | 370 | 645 | 1400 | 1800 | 5.00 |
| 24026 | 130 | 200 | 69 | 440 | 820 | 1200 | 1600 | 7.80 |
| 24028 | 140 | 210 | 69 | 450 | 860 | 1200 | 1600 | 8.00 |
| 24030 | 150 | 225 | 75 | 540 | 1035 | 1000 | 1400 | 10.35 |
| 24032 | 160 | 240 | 80 | 620 | 1190 | 800 | 1200 | 12.20 |

Remark : All the bearings shown it above table will also be available with machined brass cage having suffix ' M '
 All the bearings shown it above table will also be available with tapered bore having suffix ' K '



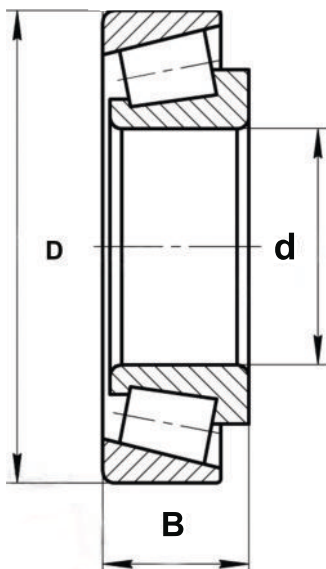
| SERIES | DIMENSION(mm) | | |
|--------|---------------|-----|-------|
| | d | D | B |
| 30209 | 45 | 85 | 20.75 |
| 30210 | 50 | 90 | 21.75 |
| 30211 | 55 | 100 | 22.75 |
| 30212 | 60 | 110 | 23.75 |
| 30213 | 65 | 120 | 24.75 |
| 30214 | 70 | 125 | 26.25 |
| 30215 | 75 | 130 | 27.25 |
| 30216 | 80 | 140 | 28.25 |
| 30217 | 85 | 150 | 30.50 |
| 30218 | 90 | 160 | 32.50 |
| 30220 | 100 | 180 | 37.00 |
| 30222 | 110 | 200 | 41.00 |

| SERIES | DIMENSION(mm) | | |
|--------|---------------|-----|-------|
| | d | D | B |
| 30309 | 45 | 100 | 27.25 |
| 30310 | 50 | 110 | 29.25 |
| 30311 | 55 | 120 | 31.50 |
| 30312 | 60 | 130 | 33.50 |
| 30313 | 65 | 140 | 36.00 |
| 30314 | 70 | 150 | 38.00 |
| 30315 | 75 | 160 | 40.00 |
| 30316 | 80 | 170 | 42.50 |
| 30317 | 85 | 180 | 44.50 |
| 30318 | 90 | 190 | 46.50 |



| SERIES | DIMENSION(mm) | | |
|--------|---------------|-----|-------|
| | d | D | B |
| 32209 | 45 | 85 | 24.75 |
| 32210 | 50 | 90 | 24.75 |
| 32211 | 55 | 100 | 26.75 |
| 32212 | 60 | 110 | 29.75 |
| 32213 | 65 | 120 | 32.75 |
| 32214 | 70 | 125 | 33.25 |
| 32215 | 75 | 130 | 33.25 |
| 32216 | 80 | 140 | 35.25 |
| 32217 | 85 | 150 | 38.50 |
| 32218 | 90 | 160 | 42.50 |
| 32219 | 95 | 170 | 45.50 |
| 32220 | 100 | 180 | 49.00 |
| 32222 | 110 | 200 | 56.00 |
| 32224 | 120 | 215 | 61.50 |
| 32226 | 130 | 230 | 67.75 |

| SERIES | DIMENSION(mm) | | |
|--------|---------------|-----|-------|
| | d | D | B |
| 32309 | 45 | 100 | 38.25 |
| 32310 | 50 | 110 | 42.25 |
| 32311 | 55 | 120 | 45.50 |
| 32312 | 60 | 130 | 48.50 |
| 32313 | 65 | 140 | 51.00 |
| 32314 | 70 | 150 | 54.00 |
| 32315 | 75 | 160 | 58.00 |
| 32316 | 80 | 170 | 61.50 |
| 32317 | 85 | 180 | 63.50 |
| 32318 | 90 | 190 | 67.50 |



Spherical Roller Bearing Radial Clearance (µm)



| BORE d (mm) | CYLINDRICAL BORE | | | | | | | | | | TAPERED BORE | | | | | | | | | |
|----------------|------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | C0 | | | | | C4 | | | | | C0 | | | | | C4 | | | | |
| | MAX | | MIN | | MIN | MAX | | MIN | | MIN | MAX | | MIN | | MIN | MAX | | MIN | | MIN |
| | UP | TO | MIN | MAX | MIN | MIN | MAX | MAX | MIN | MIN | MIN | MAX | MAX | MIN | MIN | MIN | MAX | MAX | MIN | MIN |
| 40 | 50 | 20 | 35 | 55 | 75 | 100 | 125 | 30 | 45 | 60 | 80 | 100 | 130 | 40 | 50 | 70 | 95 | 120 | 150 | 200 |
| 50 | 65 | 20 | 40 | 65 | 90 | 120 | 150 | 40 | 55 | 75 | 95 | 120 | 160 | 40 | 50 | 70 | 95 | 120 | 150 | 200 |
| 65 | 80 | 30 | 50 | 80 | 110 | 145 | 180 | 50 | 70 | 95 | 120 | 150 | 200 | 50 | 60 | 80 | 110 | 140 | 180 | 230 |
| 80 | 100 | 35 | 60 | 100 | 135 | 180 | 225 | 55 | 80 | 110 | 140 | 180 | 230 | 65 | 80 | 100 | 135 | 170 | 220 | 280 |
| 100 | 120 | 40 | 75 | 120 | 160 | 210 | 260 | 65 | 100 | 135 | 170 | 220 | 280 | 80 | 100 | 130 | 160 | 200 | 260 | 330 |
| 120 | 140 | 50 | 95 | 145 | 190 | 240 | 300 | 80 | 120 | 160 | 200 | 260 | 330 | 90 | 110 | 140 | 180 | 230 | 290 | 380 |
| 140 | 160 | 60 | 110 | 170 | 220 | 280 | 350 | 90 | 130 | 180 | 230 | 290 | 380 | 100 | 120 | 150 | 190 | 240 | 300 | 430 |
| 160 | 180 | 65 | 120 | 180 | 240 | 310 | 390 | 100 | 140 | 200 | 260 | 340 | 430 | 110 | 130 | 160 | 200 | 260 | 320 | 470 |
| 180 | 200 | 70 | 130 | 200 | 260 | 340 | 430 | 110 | 160 | 220 | 290 | 370 | 470 | 120 | 150 | 190 | 240 | 290 | 350 | 470 |
| 200 | 225 | 80 | 140 | 220 | 290 | 380 | 470 | 120 | 180 | 250 | 320 | 410 | 520 | 120 | 150 | 190 | 240 | 290 | 350 | 470 |





METAL IS MATTER

Mfg. By



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