READY Plain Bearing Components

3 types of pins, 2 types of bushings

Precision Guide Pins (-825)

Our Precision Guide Pins are designed to be used with either plain bearing or ball bearing bushings.

Vacuum degassed, ball bearing quality steel is induction hardened to 60 - 64 Rc, then core tempered for toughness. This produces an optimum combination of wear resistance for long operating life and shock resistance for safety.

Demountable Pins (-835)

Our Demountable Pins are designed for use in either plain bearing or ball bearing applications. Like our precision press fit pins, they are case hardened to 60 - 64 Rc, then core tempered for toughness.

They can be assembled to the same die set plate hundreds of times without distorting the hole center distances or damaging the holes themselves. So they not only simplify die building and maintenance, but they ensure maximum accuracy as well.

Ready demountable pins can be held in place either with toe clamps and screws, or with a retainer plug. This second option increases the die space available.

Bore Sizes for Plain Bearing Pins and Bushings

Pin Diameter	-825, -835 Bore Diameter	-55 Bore Diameter	-2x5, -6x5 Bore Diameter
3/4″	--	0.7506 0.7500	1.2506 1.2500
1″	0.9991 0.9985	1.0006 1.0000	1.5006 1.5000
1 1/4″	1.2489 1.2482	1.2506 1.2500	1.7506 1.7500
1 1/2″	1.4989 1.4982	1.5006 1.5000	2.0007 2.0000
1 3/4″	1.7489 1.7482	1.7506 1.7500	2.2507 2.2500
2″	1.9989 1.9982	2.0007 2.0000	2.5007 2.5000
2 1/2″	2.4986 2.4979	2.5007 2.5000	3.2509 3.2500
3″	2.9986 2.9974	3.0007 3.0000	3.7509 3.7500

Double Diameter Pins (-55)

Our double diameter pins are also designed for use with ball bearing as well as plain bearing bushings. They are case hardened to 60-64 Rc for wear resistance, then core tempered for toughness. A tapped hole is provided at the end of the pin for the ball cage assembly.

The press fit diameter is interchangeable with familiar brands of plain bearing and ball bearing pins, so Ready double diameter pins may be used for die maintenance as well as for new tooling.

Demountable Sintered Bronze Bushings (-235, -245, -285)

Our Sintered Bronze Bushings set a new standard of performance for stamping die guide bushings. A layer of bronze is sintered to the inside diameter of a steel bushing, creating a mechanical bond at the bronze/steel interface stronger than that of traditional plated bushings. Please refer to the following page for details.

Demountable Steel Bushings (-645)

Our Steel Bushings are manufactured to the same high level of precision as our Sintered Bronze Bushings. If operated at moderate speeds and side loads with good lubrication, they are an economic substitute for sintered bronze bushings. These two types of bushings are fully interchangeable.

Our patented Sintered Bronze Bushings offer many advantages over plated bronze bushings.

- ***Thicker Bronze:*** The sintered bronze in our bushings is substantially thicker than the plating technology it replaces.
- ***Porous Surface:*** Holds the lubrication oil where you need it most, to resist wear. Sintered bronze is porous bronze, up to 40% porosity.
- ***Stronger Bond:*** Our patented process forms a unique fusion bond so the bronze and substrate become one. See the 1000x magnification in the adjacent panel.
- ***Wear Resistance:*** The combination of increased thickness, porosity and stronger bonding means our bushing is your best choice for high speed and eccentric loading. The longest life possible under extreme conditions.

Bronze plating is not a simple process. If the bushing is dirty or there are contaminants in the plating solution, the bronze will not adhere properly and will peel away from the surface. The fourth batch of bushings, for example, will be less likely to be defect-free than the first batch placed in a tank with fresh plating solution.

The second problem with plating is that the thickness of the bronze layer depends on the plating time. A thick bronze layer is simply too costly to produce, and on large diameter bushings in particular, problems arise when the thin plating wears away and the underlying steel comes in contact with the guide pin.

READY's Sintered Bronze Bushings solve both problems. Using a patented manufacturing process, a layer of bronze is sintered to the inside diameter of the steel bushing, creating a strong, reliable mechanical bond. The thickness of the bronze layer is not limited by time or cost constraints, so it is thicker than plated bronze, and it increases proportionally with the bushing diameter.

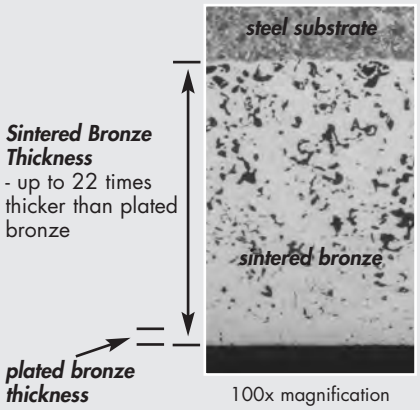
You can test the bond strengths yourself. Cut through the diameter of a plated bushing and you stand a good chance to see peeling. Do the same with our sintered bushing and you will see that the bronze-steel bond is unaffected. If you need to shorten the inserted diameter to fit our bushing into a thin stripper plate, you can do so without harming it.

There is a third advantage to our sintered bushings. Because sintered bronze is porous, it holds the lubrication oil in place and helps to maintain an unbroken lubrication layer, which improves wear resistance. The bronze pores act as small oil reservoirs, so our Sintered Bronze Bushings are more forgiving if maintenance has been overlooked. However, for best results, we recommend regular, periodic lubrication with a high viscosity oil.

Compare the Bronze Thickness

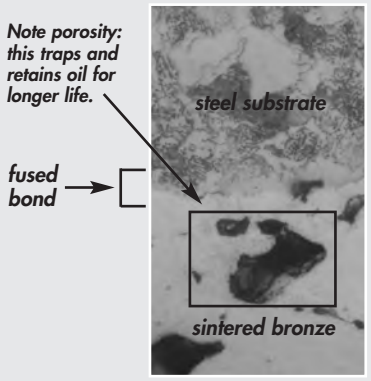
Take A Closer Look ...

Actual magnified views of bushing cross sections.



100x magnification

This view reveals the greater bronze thickness and the porosity of our Sintered Bronze Bushing.



1000x magnification

This view reveals the fusion bonding of the thick sintered bronze layer to the steel substrate.

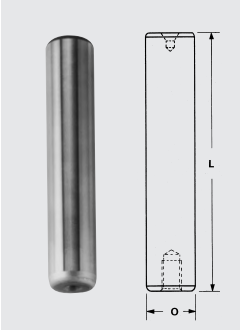
Compare The Thickness ...

Nominal Diameter O Nom.	Plated Bronze Layer Thickness	READY Sintered Bronze Layer Thickness
1″	0.002″	0.027″
1 1/4″	0.002″	0.030″
1 1/2″	0.002″	0.033″
1 3/4″	0.002″	0.034″
2″	0.002″	0.037″
2 1/2″	0.002″	0.041″
3″	0.002″	0.044″

Precision Pin Selection Guide (-825)

Nominal Pin Diameter O	Length L	Catalog Number
1″	3 1/4	5-0813-825
	3 3/4	5-0815-825
	4 1/4	5-0817-825
	4 1/2	5-0818-825
	4 3/4	5-0819-825
	5	5-0820-825
	5 1/4	5-0821-825
	5 1/2	5-0822-825
	5 3/4	5-0823-825
	6	5-0824-825
	6 1/2	5-0826-825
	7	5-0828-825
	7 1/2	5-0830-825
	8	5-0832-825
	8 1/2	5-0834-825
	9	5-0836-825
1 1/4″	4 1/4	5-1017-825
	4 3/4	5-1019-825
	5 1/4	5-1021-825
	5 1/2	5-1022-825
	5 3/4	5-1023-825
	6	5-1024-825
	6 1/2	5-1026-825
	7	5-1028-825
	7 1/2	5-1030-825
	8	5-1032-825
	8 1/2	5-1034-825
	9	5-1036-825
	10	5-1040-825
	11	5-1044-825
	12	5-1048-825
1 1/2″	4 1/4	5-1217-825
	5	5-1220-825
	5 3/4	5-1223-825
	6	5-1224-825
	6 1/2	5-1226-825
	7	5-1228-825
	7 1/2	5-1230-825
	8	5-1232-825
	8 1/2	5-1234-825
	9	5-1236-825
	9 1/2	5-1238-825
	10	5-1240-825
	10 1/2	5-1242-825
	11	5-1244-825
	11 1/2	5-1246-825
	12	5-1248-825
	12 1/2	5-1250-825
	13	5-1252-825
	14	5-1256-825

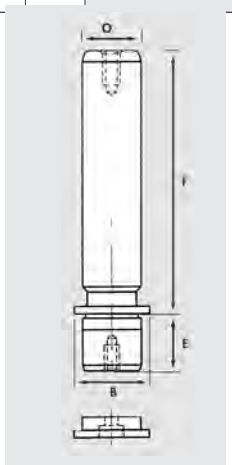
Nominal Pin Diameter O	Length L	Catalog Number
1 3/4″	5	5-1420-825
	5 3/4	5-1423-825
	6 1/2	5-1426-825
	7	5-1428-825
	7 1/2	5-1430-825
	8	5-1432-825
	8 1/2	5-1434-825
	9	5-1436-825
	9 1/2	5-1438-825
	10	5-1440-825
	10 1/2	5-1442-825
	11	5-1444-825
	11 1/2	5-1446-825
	12	5-1448-825
	12 1/2	5-1450-825
	13	5-1452-825
	14	5-1456-825
	15	5-1460-825
	17	5-1468-825
2″	5 3/4	5-1623-825
	6 1/2	5-1626-825
	7 1/4	5-1629-825
	7 1/2	5-1630-825
	7 3/4	5-1631-825
	8	5-1632-825
	8 1/2	5-1634-825
	9	5-1636-825
	9 1/2	5-1638-825
	10	5-1640-825
	10 1/2	5-1642-825
	11	5-1644-825
	11 1/2	5-1646-825
	12	5-1648-825
	12 1/2	5-1650-825
	13	5-1652-825
	14	5-1656-825
	15	5-1660-825
	16	5-1664-825
	17	5-1668-825
	18	5-1672-825
2 1/2″	8	5-2032-825
	8 3/4	5-2035-825
	9 1/2	5-2038-825
	10	5-2040-825
	11	5-2044-825
	12	5-2048-825
	13	5-2052-825
	14	5-2056-825
	17	5-2068-825
	18	5-2072-825
	20	5-2080-825
3″	8	5-2432-825
	9	5-2436-825
	10	5-2440-825
	11	5-2444-825
	12	5-2448-825
	13	5-2452-825
	14	5-2456-825
	17	5-2468-825
	20	5-2480-825



Demountable Pin Selection Guide (-835)

Nominal Pin Diameter O	Flange B	Length E	Length F	Catalog Number
1″	1.31	7/8″	4	5-0816-835
			4 1/2	5-0818-835
			5	5-0820-835
			5 1/2	5-0822-835
			6	5-0824-835
			6 1/2	5-0826-835
			7	5-0828-835
			7 1/2	5-0830-835
1 1/4″	1.56	1 3/16″	4	5-1016-835
			4 1/2	5-1018-835
			5	5-1020-835
			5 1/2	5-1022-835
			6	5-1024-835
			6 1/2	5-1026-835
			7	5-1028-835
			7 1/2	5-1030-835
			8	5-1032-835
			8 1/2	5-1034-835
			9	5-1036-835
			9 1/2	5-1038-835
			10	5-1040-835
1 1/2″	1.87	1 7/16″	5	5-1220-835
			5 1/2	5-1222-835
			6	5-1224-835
			6 1/2	5-1226-835
			7	5-1228-835
			7 1/2	5-1230-835
			8	5-1232-835
			8 1/2	5-1234-835
			9	5-1236-835
			9 1/2	5-1238-835
			10	5-1240-835
			11	5-1244-835
1 3/4″	2.25	1 11/16″	5	5-1420-835
			5 1/2	5-1422-835
			6	5-1424-835
			6 1/2	5-1426-835
			7	5-1428-835
			7 1/2	5-1430-835
			8	5-1432-835
			8 1/2	5-1434-835
			9	5-1436-835
			9 1/2	5-1438-835
			10	5-1440-835
			11	5-1444-835
			12	5-1448-835

Nominal Pin Diameter O	Flange B	Length E	Length F	Catalog Number
2″	2.50	1 15/16″	5	5-1620-835
			5 1/2	5-1622-835
			6	5-1624-835
			6 1/2	5-1626-835
			7	5-1628-835
			7 1/2	5-1630-835
			8	5-1632-835
			8 1/2	5-1634-835
			9	5-1636-835
			9 1/2	5-1638-835
			10	5-1640-835
			11	5-1644-835
			12	5-1648-835
2 1/2″	3.00	1 15/16″	5	5-2020-835
			5 1/2	5-2022-835
			6	5-2024-835
			6 1/2	5-2026-835
			7	5-2028-835
			7 1/2	5-2030-835
			8	5-2032-835
			8 1/2	5-2034-835
			9	5-2036-835
			9 1/2	5-2038-835
			10	5-2040-835
			11	5-2044-835
			12	5-2048-835
			13	5-2052-835
			14	5-2056-835
3″	3.50	2 3/16″	6	5-2424-835
			7	5-2428-835
			8	5-2432-835
			9	5-2436-835
			10	5-2440-835
			11	5-2444-835
			12	5-2448-835
			14	5-2456-835
			16	5-2464-835



Guide Pin Tap Sizes		Recommended Seating Torque
Nominal Pin Diameter O	Tap Size	Lbs. - Feet
1 - 1 1/4″	5/16 - 18 N.C.	26
1 1/2 - 1 3/4 - 2″	3/8 - 16 N.C.	47
2 1/2″ - 3″	1/2 - 13 N.C.	112

For Demountable Pin Tap Sizes, see page 9.