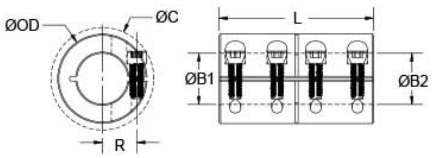
MCLX-4-4-F

Ruland MCLX-4-4-F, 4mm x 4mm Rigid Coupling, Black Oxide Steel, One-Piece Clamp Style, 15mm OD, 22mm Length





Description

Ruland MCLX-4-4-F is a one-piece rigid coupling with 4mm x 4mm bores, 15mm OD, and 22mm length. It has precision honed bores to ensure they are collinear and do not introduce misalignment or vibration into the system making it suitable for high precision servo appliactions as well as shaft to shaft connections. Proprietary Nypatch® anti-vibration coating on hardware allows for even seating of the screw, repeated screw installations, prevents galling, and maintains high holding power. It eliminates the need to treat screws upon receipt greatly reducing installation time. Forged screws test beyond DIN 912 12.9 standards to ensure maximum holding power. Tightly controlled bore tolerance of +.050mm/+.012mm is maintained. MCLX-4-4-F is made from 1215 lead-free steel with a proprietary black oxide finish that produces a fine glossy finish while increasing holding power and resisting corrosion. It is machined from solid bar stock that is sourced exclusively from North American mills and is RoHS3 and REACH compliant. MCLX-4-4-F is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1)	4 mm	**Small Bore (B2)**	4 mm
B1 Max Shaft Penetration	11.0 mm	**B2 Max Shaft Penetration**	11.0 mm
Outer Diameter (OD)	15 mm	**Bore Tolerance**	+0.050 mm / +0.012 mm
Length (L)	22 mm	**Clearance Diameter (C) MAX**	15.0 mm
Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	**Forged Clamp Screw**	M2
Screw Material	Alloy Steel	**Hex Wrench Size**	1.5 mm
Screw Finish	Black Oxide	**Seating Torque**	0.6 Nm
Screw Location (R)	4.6 mm	**Number of Screws**	4 ea
Rated Torque	2.51 Nm	**Moment of Inertia**	7.544 x 10^{-7} kg-m^2
Maximum Speed	4,000 RPM	**Full Bearing Support Required?**	No
Precision Honed Bores?	Yes	**Zero-Backlash?**	Yes
Material Specification	1215 Carbon Steel Bar	**Temperature**	-40°F to 350°F (-40°C to 176°C)
Finish Specification	Hot Process Black Oxide, Impregnated with Naphthenic Oil, Centrifugally Dried	**Manufacturer**	Ruland Manufacturing
Country of Origin	USA	**Weight (lbs)**	0.055200
UPC	634529095102	**Tariff Code**	8483.60.8000
UNSPC	31163009		
Note 1	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Prop 65	⚠**WARNING** This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.		

Installation Instructions

1. Align the MCLX-4-4-F one-piece rigid coupling on the two shafts to be connected. There should be no misalignment.
2. Tighten the Nypatch® screws in two stages, starting with the inside screws. Using a 1.5 mm torque wrench, tighten the inside screws to 0.3 Nm which is half the recommended seating torque. Repeat for the outside screws, again tightening to half of the recommended seating torque.
3. Tighten the screws to the full recommended seating torque of 0.6 Nm following the same pattern, starting with the inside screws first.