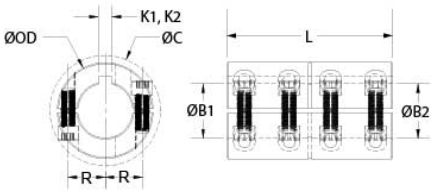
# SPC-20-20-F

Ruland SPC-20-20-F, 1-1/4" x 1-1/4" Rigid Coupling, Black Oxide Steel, Two-Piece Clamp Style With Keyway, 2 1/16" OD, 3 1/4" Length






## Description

Ruland SPC-20-20-F is a two-piece rigid coupling with 1.2500" x 1.2500" bores, 2 1/16" OD, 3 1/4" length, and 1/4" x 1/4" keyways. 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. SPC-20-20-F has opposing hardware for a balanced design. 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 ANSI standards to ensure maximum holding power. Tightly controlled bore tolerance of +.002"/+.0005" is maintained. SPC-20-20-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. SPC-20-20-F is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## Product Specifications

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|---|---|---|---|
| **Bore (B1)** | 1.2500 in | **Small Bore (B2)** | 1.2500 in |
| **Keyway (K1)** | 1/4 in | **Keyway (K2)** | 1/4 in |
| **B1 Max Shaft Penetration** | 1.625 in | **B2 Max Shaft Penetration** | 1.625 in |
| **Outer Diameter (OD)** | 2 1/16 in | **Bore Tolerance** | +0.0020 in / +0.0005 in |
| **Length (L)** | 3 1/4 in | **Clearance Diameter (C) MAX** | 2.286 in |
| **Recommended Gap** | 0.094 in | **Recommended Shaft Tolerance** | +0.0000 in / -0.0005 in |
| **Forged Clamp Screw** | 1/4-28 | **Screw Material** | Alloy Steel with Nypatch® |
| **Hex Wrench Size** | 3/16 in | **Screw Finish** | Black Oxide |
| **Seating Torque** | 170 lb-in | **Screw Location (R)** | 0.807 in |
| **Number of Screws** | 8 ea | **Rated Torque** | 5000 in-lb |
| **Moment of Inertia** | 1.2957 lb-in$^2$ | **Maximum Speed** | 4,000 RPM |
| **Full Bearing Support Required?** | No | **Nypatch® Anti-Vibration Hardware?** | Yes |
| **Precision Honed Bores?** | Yes | **Zero-Backlash?** | Yes |
| **Balanced Design** | 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)** | 1.764100 | **UPC** | 634529022689 |
| **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 SPC-20-20-F two-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 3/16 in torque wrench, tighten the inside screws to 85 lb-in which is half the recommended seating torque. Repeat

the process for the outside screws, tightening to half the recommended seating torque.
3. Be sure to maintain the gap of 0.094 in between the two halves during installation.
4. Tighten the screws to the full recommended seating torque of 170 lb-in following the same pattern, starting with the inside screws first.
5. For optimum results do not exceed the shaft penetration length of 1.625 in.