

SUBMITTAL FOR CHARLOTTE® STANDARD NO-HUB COUPLINGS

Date: _____

Job Name: _____

Location: _____

Engineer: _____

Contractor: _____

▶ **Charlotte® Standard No-Hub Couplings**, manufactured by Ideal Clamp Products, are engineered to connect hub-less cast iron pipe and fittings. The coupling sleeve or gasket is manufactured from a properly vulcanized virgin compound where the primary elastomer is polychloroprene (neoprene). The gasket is housed inside a 301 stainless steel corrugated shield. Depending on the size of the shield, (2) or (4) 301 stainless steel clamps surround the shield and provide the sealing force. The 5/16" hex-head screws are made from 305 grade stainless steel. The Charlotte Standard No-Hub Couplings are available in sizes ranging from 1½" – 10". The couplings are designed for installation torque of 60 in-lbs. The entire coupling is corrosion resistant.

Size	Installation Torque Inch Pounds	No. of Clamps Per Coupling
1½"	60	2
2"	60	2
3"	60	2
4"	60	2
5"	60	4
6"	60	4
8"	60	4
10"	60	4
2" x 1½"	60	2
3" x 2"	60	2
4" x 3"	60	2

▶ **The Design:**

The Charlotte Standard No-Hub Coupling is engineered to provide superior sealing performance. The coupling is NSF® Certified* and is in full compliance to CISPI 310, ASTM C 1277 and ASTM C 564. ***Sizes 1½" through 10" only**

▶ **The Gasket:**

The gasket is made from a properly vulcanized virgin compound in compliance to ASTM C 564. The Charlotte No-Hub gasket features multiple sealing beads under the clamp bands. The sealing beads on the gasket impede the movement of the gasket and pipe, providing a positive, reliable seal. Neoprene has a maximum operating temperature of 212°F and has a maximum joint deflection of 5 degrees.

▶ **The Shield:**

The 0.007" thick type 301 stainless steel shield requires less band load to transfer pressure to the gasket, leaving more clamping load in reserve to compress the gasket. The patented, bi-directional corrugations create clamp sealing pressure in both parallel and transverse patterns on the gasket and pipe, thereby avoiding pull-out failures, and providing a positive, reliable seal.

▶ **The Clamps:**

Standard 301 stainless steel clamps and 5/16" hex-head 305 screws provide the sealing force. 1½" through 4" couplings use two (2) clamps; 5" through 10" couplings use four (4) clamps. The entire assembly is corrosion resistant.



▶ CHARLOTTE® STANDARD NO-HUB COUPLINGS

Product Information Submittal for No-Hub Systems

TEST	GASKET PHYSICAL TEST MIN. OR MAX. REQUIREMENTS	ASTM METHOD
Tensile Strength	1500 psi min.	D 412
Elongation	250 min.	D 412
Durometer (Shore A)	70 +/-5 @ 76°F +/- 5°F	D 2240
Accelerated Aging	15% maximum tensile and 20% maximum elongation, 10 points maximum increase in hardness, all determinations after oven aging for 96 hours at 158°F	D 573
Compression Set	25% max. after 22 hours at 158°F	D 395 Method B
Oil Immersion	80% max. volume change after immersion in IRM 903 for 70 hours at 212°F.	D 471
Ozone Cracking	No visible cracking at 2 times magnification of the gasket after 100 hours exposure in 1.5 ppm ozone concentration at 104°F. Testing and inspection to be on gasket which is loop mounted to give approximately 20% elongation of outer surface.	D 1149
Tear Resistance	150 lbf /in. min.	D 624
Water Absorption	20% max. by weight after 7 days at 158°F	D 471

MATERIALS	
Clamp	Type 301 AISI stainless steel
Screw	Type 305 AISI stainless steel 5/16" hex head/shoulder
Shield	Type 301 AISI stainless steel, corrugated. Shield thickness 0.007"
Gasket	The gasket is made of an elastomeric compound that meets the requirements of ASTM C 564

▶ The Charlotte® patented Standard No-Hub Coupling has been engineered to provide an all stainless steel coupling, balancing the desire for a more rigid joint with the need to provide a superior, positive, reliable seal which can accommodate possible disparities in the mating of No-Hub pipe and fittings.

The 1½", 2", 3" and 4" diameter couplings consist of a 2½" wide bi-directional, corrugated 301 stainless steel shield in conjunction with two (2) stainless steel clamps mounted in a series, secured in place by means of fixed and "floating" eyelets to allow the clamp "travel" during tightening. The 5" and 6" couplings consist of a 3" wide corrugated 301 stainless steel shield in conjunction with four (4) clamps and the 8" and 10" coupling consists of a 4" wide corrugated 301 stainless steel shield with four (4) stainless steel clamps.

All Charlotte Standard No-Hub Couplings are designed to be installed with a pre-set torque wrench calibrated at 60 in-lbs. to accommodate the 305 stainless steel 5/16" hex-head/shoulder screw.

