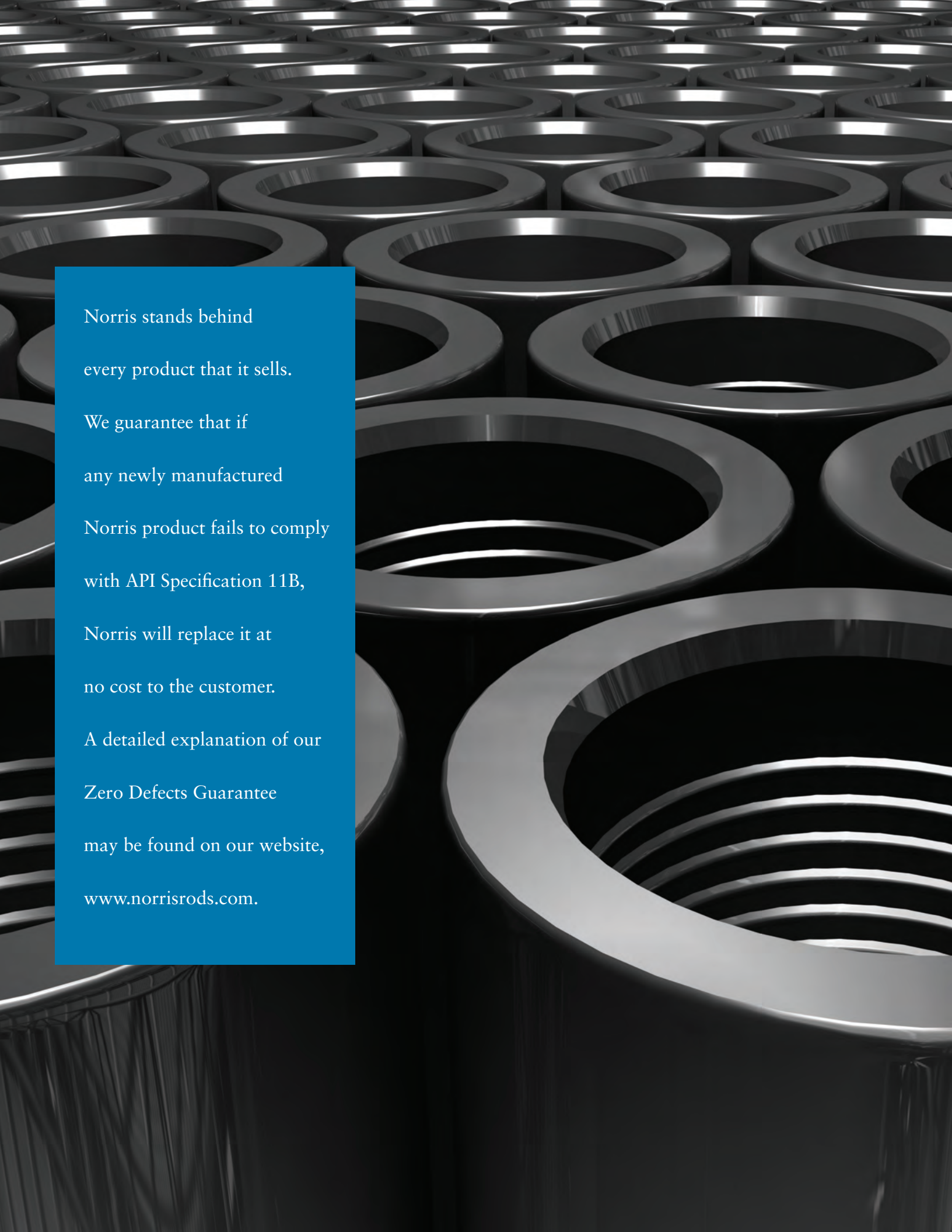


**NORRIS**

**Couplings**



**Engineered performance.  
Designed tough.**



Norris stands behind  
every product that it sells.

We guarantee that if  
any newly manufactured  
Norris product fails to comply  
with API Specification 11B,  
Norris will replace it at  
no cost to the customer.

A detailed explanation of our  
Zero Defects Guarantee  
may be found on our website,  
[www.norrisrods.com](http://www.norrisrods.com).

# Norris Couplings

Norris sucker rod couplings, polished rod couplings and sub-couplings are engineered and designed to meet the challenges existing in today's rod-pumped applications. They are available in API Class T, High Strength or Sprayloy® (API Class SM) and in all sucker rod sizes. Norris couplings are manufactured from special quality cold-formed steel extrusions or cold drawn seamless mechanical steel tubing. Sucker rod couplings, polished rod couplings and sub-couplings are available in fullsize, slimhole or oversize outside diameters and in standard-width or effective-width (ECF) contact face designs.

ECF's improved design enhances the friction force by maximizing the area of contact between the pin shoulder and coupling face; helping maintain the proper preload stress level required in makeup. This "effective" area of contact also provides greater consistency in the amount of displacement (torque) required to properly preload the pin between multiple connections in the rod string.

All couplings are furnished with a cold-formed, fully rolled thread to provide additional strength and fatigue resistance. Pioneered and developed by Norris in 1969, the cold-formed, fully rolled coupling thread is produced by completely cold-forming (reshaping) the steel fibers so they follow the contour (shape) of the thread. The thread surface that results from fully rolled threads improves its resistance to corrosion and reduces abrasion within the thread. The work hardened flank provides increased surface tensile, yield and shear strength. Due to the pressure deformation, a residual compressive stress system builds up at the thread root, which counteracts tensile loading. When compared to cut or burnished threads, the load capacity and corrosion and fatigue resistance of the rolled thread is significantly increased.

## Selection Guide

### Class T

#### Steel Series

AISI A-8630-M Nickel-Chromium-Molybdenum Alloy Steel

#### Construction

The coupling blanks are formed or machined to size and tolerance, threaded using a cold-forming rolled thread tap and coated for anti-galling and lubrication properties.

#### Applications

Designed for reciprocating lift applications, Class T couplings are recommended for installation where abrasion or corrosion-abrasion is not a problem.

### High Strength

#### Steel Series

AISI A-4130-M Chromium-Molybdenum Alloy Steel

#### Construction

The coupling blanks are formed or machined to size and tolerance, heat treated, threaded using a cold-forming rolled thread tap and coated for anti-galling and lubrication properties. Slimhole High Strength couplings provided with Norris Drive Rods® are ECF and have the anti-galling and lubrication coating removed from the coupling face to assist in achieving consistent connection makeup in Progressing Cavity Pump (PCP) applications.

#### Applications

Designed to meet higher tensile and torsional load requirements to maximize the load capacity of the connection, High Strength couplings are ideally suited for Progressing Cavity Pump (PCP) applications.

### Sprayloy

#### Steel Series

AISI A-8630-M Nickel-Chromium-Molybdenum Alloy Steel

#### Construction

The coupling blanks are formed or machined to size and tolerance, hard surfaced on the outside diameter with a 0.01 inch (0,25 mm) to 0.02 inch (0,51 mm) thick nickel-chromium spraymetal coating, threaded using a cold-forming rolled thread tap and coated for anti-galling and lubrication properties.

#### Applications

Designed for reciprocating lift applications, Sprayloy couplings are recommended for installation where abrasion or corrosion-abrasion is a problem.

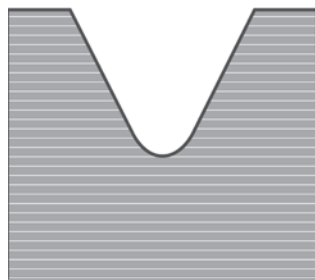
The selection guide is not intended as design criteria. Call Norris for specific rod string design recommendations.

Sucker Rod couplings, Polished Rod couplings and Sub-couplings			Class T	High Strength	Sprayloy®	
			API Class	T	Special	SM
			AISI Series	8630	4130	8630
			Range			
	Chemical Properties, %		Class T	High Strength	Sprayloy®	
	Carbon	(C)	0.2 / 0.33	0.28 / 0.33	0.2 / 0.33	
	Chromium	(Cr)	0.4 / 0.6	0.8 / 1.1	0.4 / 0.6	
	Copper	(Cu)	0.3 Max.	0.3 Max.	0.3 Max.	
	Manganese	(Mn)	0.7 / 0.9	0.7 / 0.9	0.7 / 0.9	
	Molybdenum	(Mo)	0.15 / 0.25	0.15 / 0.25	0.15 / 0.25	
Nickel	(Ni)	0.4 / 0.7	-	0.4 / 0.7		
Phosphorus	(P)	0.035 Max.	0.035 Max.	0.035 Max.		
Silicon	(Si)	0.15 / 0.3	0.15 / 0.3	0.15 / 0.3		
Sulfur	(S)	0.04 Max.	0.04 Max.	0.04 Max.		

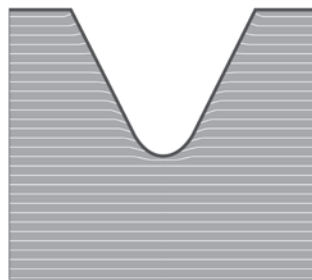
Sucker Rod couplings, Polished Rod couplings and Sub-couplings	Sprayloy® Coating Chemical Properties, %		Range
	Aluminum	(Al)	0.05 Max.
	Boron	(B)	2.5 / 4.5
	Carbon	(C)	0.5 / 1.0
	Chromium	(Cr)	12.0 / 18.0
	Cobalt	(Co)	0.1 Max.
	Iron	(Fe)	3.0 / 5.5
	Phosphorus	(P)	0.02 Max.
	Silicon	(Si)	3.5 / 5.5
	Sulfur	(S)	0.02 Max.
	Titanium	(Ti)	0.05 Max.
	Zirconium	(Zr)	0.05 Max.
	Nickel	(Ni)	Balance

		Range		
		Class T	High Strength	Sprayloy®
Sprayloy® Coating Chemical Properties, %				
Tensile	ksi	95 / 120	125 / 138	95 / 120
	Mpa	655 / 827	861 / 951	655 Min.
Yield	ksi	80 Min.	105 Min.	80 Min.
	Mpa	551 Min.	723 Min.	551 Min.
Elongation, 2", %		16 Min.	-	16 Min.
Reduction in Area, %		50 Min.	-	50 Min.
Surface Finish, O.D., Ra	microinch	125	125	63
	micrometer	3,175	3,175	1,600 2
Hardness	BHN	192 / 248	262 / 285	192 / 248
	HRA	56 / 62	-	56 / 62
	HRC	-	26 / 30	-
Sprayloy® Coating Hardness, HV <sub>200</sub>		-	-	595

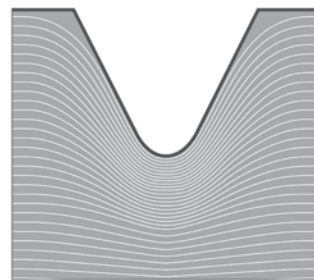
Outside diameter	5/8		3/4		7/8		1		1-1/8		
	Outside Diameter	0.625	15,88	0.75	19,05	0.875	22,23	1.0	25,4	1.125	28,58
		inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
Slimhole	1-1/4	31,75	1-1/2	38,1	1-5/8	41,28	2	50,8	2-1/4	57,15	
Full Size	1-1/2	38,1	1-5/8	41,28	1-13/16	46,04	2-3/16	55,56	2-3/8	60,33	
Oversize	-	-	1-13/16	46,04	2	50,8	2-3/8	60,33	-	-	



cut thread



burnished thread



rolled thread

**Engineered performance.  
Designed tough.**

