

## WEATHERFORD STANDARD MATERIALS OF CONSTRUCTION

Standard materials of construction for key components are provided below for material groups A-F. Many options are available, particularly for valves, packing, plungers, and o-ring seals, to meet the needs of special fluids, temperatures, and other requirements. Consult your Weatherford representative for more details and for information regarding materials for the Series MP, TW, and Kobe products.

### Material Group A: 1045 Carbon Steel

Fluid Cylinder .....	1045 Carbon Steel with Nickel-Boron Coating
Stuffing Box .....	420 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover .....	420 Stainless Steel
Front Cover .....	420 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on Steel Base
Fluid End Studs.....	Alloy Steel, Nickel-Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel-Boron Coated
O-Rings.....	HNBR Rubber
Packing.....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

### Material Group B: 4140 Alloy Steel

Fluid Cylinder .....	4140 Alloy Steel
Stuffing Box .....	420 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover .....	420 Stainless Steel
Front Cover .....	420 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on Steel Base
Fluid End Studs.....	Alloy Steel, Nickel-Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel-Boron Coated
O-Rings.....	HNBR Rubber
Packing.....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

### Material Group C: Nickel Aluminum Bronze

Fluid Cylinder .....	C955 Nickel Aluminum Bronze
Stuffing Box .....	316 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover .....	316 Stainless Steel
Front Cover .....	316 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on 304 SS Base
Fluid End Studs.....	Alloy Steel, Nickel-Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel-Boron Coated
O-Rings.....	HNBR Rubber
Packing.....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

#### Material Group D: 420 Stainless Steel

Fluid Cylinder .....	420 Stainless Steel
Stuffing Box .....	316 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover.....	420 Stainless Steel
Front Cover.....	420 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on Steel Base
Fluid End Studs.....	Alloy Steel, Nickel-Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel-Boron Coated
O-Rings.....	HNBR Rubber
Packing .....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

#### Material Group E: 304 Stainless Steel

Fluid Cylinder .....	304 Stainless Steel
Stuffing Box .....	316 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover.....	2205 Stainless Steel
Front Cover.....	2205 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on 304 Steel Base
Fluid End Studs.....	Alloy Steel, Nickel Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel Boron Coated
O-Rings.....	NBR Rubber
Packing .....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

#### Material Group F: 316 Stainless Steel

Fluid Cylinder .....	316L Stainless Steel
Stuffing Box .....	316 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover.....	316 Stainless Steel
Front Cover.....	316 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on 304 Steel Base
Fluid End Studs.....	Alloy Steel, Nickel-Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel-Boron Coated
O-Rings.....	HNBR Rubber
Packing .....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

#### Material Group G: 2205 Duplex Stainless Steel

Fluid Cylinder .....	2205 Duplex Stainless Steel
Stuffing Box .....	2205 Stainless Steel
Adjusting Nut .....	Aluminum Bronze
Throat Bushing.....	Aluminum Bronze
Packing Follower Ring .....	Aluminum Bronze
Lantern Gland .....	Aluminum Bronze (if applicable)
Top Cover.....	2205 Stainless Steel
Front Cover.....	2205 Stainless Steel (if applicable)
Plunger .....	Tungsten-Carbide on 304 Steel Base
Fluid End Studs.....	Alloy Steel, Nickel-Boron Coated
Fluid End Nuts .....	Alloy Steel, Nickel-Boron Coated
O-Rings.....	HNBR Rubber
Packing .....	Braided Teflon-Kevlar
Valve Assembly <sup>1</sup> .....	17-4 Stainless Steel

Note: 1. Valve materials are typical, however consult Weatherford for detailed information if required.  
2. Weatherford reserves the right to modify the materials shown on this list without notice.



**Head Office:**  
6120 Davies Road  
Edmonton, AB  
T6E 4M9

Phone: (780) 485-2010 • Toll Free: (866) 707-7867  
Fax: (780) 485-1938  
• Calgary • Drayton Valley • Lloydminster  
[www.rotatingright.com](http://www.rotatingright.com)