



MANDATORY
ENGINEERING STANDARD

**Acceptable Manufacturers of Piping
Components; Piping AVL**
RS USA 21.04.02.00

NA
Standard
N-E-MP-12
2023-02-23

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1 Scope

This Standard provides a list of manufacturers that are acceptable to Covestro for the pipe, fittings, and flange materials described in Covestro commodity catalog. In some cases, this standard does not apply to those components which are in the Commodity catalog lists of acceptable Manufacturers with the actual material descriptions (e.g., valves, etc.).

2 Normative References

The following documents, if shown, are referenced in this document (“Referenced Documents”) and contain the minimum information that needs to be taken into account when applying this Standard. For each undated Referenced Document, the latest revision of such Referenced Document applies. For each dated Referenced Document, only the so identified edition of such Referenced Document applies.

G-G-JA-3 General Definitions

3 Terms, Definitions and Abbreviations

3.1 Terms and Definitions

Capitalized terms used but not defined in this document are defined in Standard G-G-JA-3.

3.1.1 Low and Intermediate Alloy Steel

Steels with a chrome content between 1/2% and 9% that may also contain small amounts of other alloying elements such as molybdenum and nickel.

3.1.2 Stainless Steel: 300 Series

Commonly used austenitic stainless steels with primary alloying elements of chromium and nickel. Includes grades 304, 304L, 316, 316L, and 321.

3.1.3 Stainless Steel: Duplex and Super Austenitic

Stainless steels with increased corrosion resistance compared to 300 series. Typically contain high amounts of chromium and molybdenum. Includes grades 2205, AL-6XN, 254 SMO, 6%-Moly, and 904L.

3.1.4 Nickel and Nickel Alloys

Metals with nickel as the main alloying element. Typically have a very high resistance to corrosion and many have excellent high temperature strength. Includes pure nickel (alloys 200 and 201), Hastelloy, Inconel, Incoloy, and Monel.

3.1.5 Other Materials and Construction

Typically covers nonferrous materials such as copper and aluminum, exotic materials such as titanium, tantalum, niobium and zirconium, and non-standard methods of construction (such as pipe made from rolled plate). Refer individual category for description of coverage.

3.1.6 Weld Fittings

Fittings, normally with butt weld ends, that are rated according to corresponding pipe schedule (i.e., Sch 40, Sch 80, XXS, etc.) may be of either seamless or welded construction.

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3.1.7 Forged Pressure Fittings and Branch Outlets

Covers forged branch connections fittings, normally with threaded or socket weld ends, normally in small sizes, that are rated according to pressure class or pressure rating (i.e., class 3000, class 6000, 3000 lbs, etc.) includes tees, elbows, o-lets, couplings, plugs, standard unions and hammer unions.

3.1.8 Flexible Metallic Tubing

Flexible metal tubing used for tracing or instrumentation. Typically, in sizes from 1/4" to 1-1/8" with wall thicknesses from 0.030" to 0.120." Does not include heat exchanger tubing. Does not include pre-insulated or engineering tubing - These items can be found in the commodity catalog.

3.2 Abbreviations

AVL Acceptable Vendors List

CI Cast Iron

4 General

- 1) The Covestro Piping Acceptable Manufacturers List (Piping AML) was developed to ensure that commodity piping components used by Covestro meet a minimum set of acceptable requirements for design and quality. Acceptance of a manufacturer does not imply that Covestro endorses the product.
- 2) An accepted manufacturer's product is considered acceptable only when the commodity is manufactured, inspected and tested in accordance with the referenced standard in the manufacturer's approved facility.
- 3) An audit of the manufacturing facility is required prior to use or purchase.
- 4) Components such as fittings manufactured using pipe as a base material are acceptable if the manufacturer of the pipe is approved in Table 1 of this document for the grade of pipe being used. Pipe from manufacturers that are not listed in this AML shall be supplied with the original pipe Material Test Report and shall be approved by Covestro prior to purchase.

5 Availability and Maintenance

- 1) The Covestro commodity catalog can be found on the Internet at "commoditycatalog.covestro.com."
- 2) Deviations from the piping AML are not permitted without the written approval from Covestro.
- 3) This list is published and maintained by Covestro and will be reviewed and maintained on a yearly basis. Covestro Inspectors and end-users are encouraged to request the addition or removal of any piping AML item.

6 Exclusions

- 1) The Piping AML is applicable to standard components of piping system. Piping components requiring engineering, special metals or special fabrication such as jacketed pipe, or any component listed in the Specialty (88) Category are not included.
- 2) Any component requiring a manufacturer's model number is not included.

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	1.06 Pipe – Stainless Steel: Duplex and Super Austenitic
	1.07 Pipe – Nickel and Nickel Alloys
	1.08 Pipe – Other Materials and Construction
2) Seamless and Welded Fittings	2.01 Seamless and Welded Fittings – Carbon Steel
	2.02 Seamless and Welded Fittings – Low and Intermediate Alloy Steel
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	2.04 Seamless and Welded Fittings – Stainless Steel: Duplex and Super Austenitic
	2.05 Seamless and Welded Fittings – Nickel and Nickel Alloys
	2.06 Seamless and Welded Fittings – Other Materials and Construction
3) Forged Pressure Fittings and Branch Outlets	3.01 Forged Pressure Fittings and Branch Outlets – Carbon Steel
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4) Flanges	4.01 Flanges – Carbon Steel
	4.02 Flanges – Low and Intermediate Alloy Steel
	4.03 Flanges – Stainless Steel: 300 Series
	4.04 Flanges – Stainless Steel: Duplex and Super Austenitic
	4.05 Flanges – Nickel and Nickel Alloys
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5) Miscellaneous Piping Components	5.01 Nipples and Swages
	5.02 Flexible Metallic Tubing
	5.03 Chainwheel Operators
6) Fasteners	6.01 Bolts and Nuts
7) Gaskets	Refer to the Commodity Catalog
8) Valves	Refer to the Commodity Catalog
9) Miscellaneous Services	9.01 Pipe Bending
	9.02 Fabricated Laterals, Wyes, and Crosses
	9.03 Custom Fittings
10) Cast, Forged and Malleable Fittings	10.01 Cast Iron
	10.02 Cast Malleable
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11) Unions	11.01 Unions
12) Reserved	

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Table 2 — List of Approved Vendors

Vendor	Location	Remarks
1. Pipe		
1.01 Pipe – Carbon Steel; Welded		
American Cast Iron Pipe Company • American Pipe	USA	ACIPCO
Axis Pipe and Tube	USA	
Berg Steel Pipe Corporation	USA	BSPC
Borusan	USA	
California Steel Industries	USA	CSI
Durabond	USA	
Eisenbau Krämer	Germany	EBK
Hyundai Hysco Co. • Hyundai Hysco	Korea	
JFE Steel Corporation	Japan	
Zekelman Industries • Energex Tube • Sharon Tube • Wheatland Tube Company	Canada USA USA	
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation.
Plymouth Tube Company • Trent Tube • Plymouth Tube	USA USA	
Seah Global	Korea, USA	
Swepeco Tube	USA	
Tenaris Group • Maverick Tube • IPSCO • Koppel Steel	USA USA, Canada USA	TMK Group acquired by Tenaris
Tex-Tube Company	USA	
U.S. Steel • Lone Star • U.S. Steel	USA USA	Camp Hill
Welspun Corp	USA	

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Vendor	Location	Remarks
1.02 Pipe – Carbon Steel; Seamless		
TMK Group • IPSCO • Koppel Steel	USA, Canada USA	
Benteler Steel & Tube	USA	
Bri-Steel	Canada	
JFE Steel Corporation	Japan	
Michigan Seamless Tube	USA	
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation
PTC Alliance	USA	
Tenaris Group • NKK • Siderca • Tamsa • IPSCO • Koppel	Italy Japan Argentina, Mexico USA Canada	
U. S. Steel	USA	
Vallourec Group • Vallourec Star • Vallourec Solucoes Tubulares do Brazil • Vallourec Deutschland GmbH • Vallourec	USA Brazil Germany France, Canada	Was Vallourec and Mannesman Tube
Zekelman Industries • Wheatland Tube Company • Sharon Tube	USA USA	Was Wheatland Group
1.03 Pipe – Low and Intermediate Alloy Steel; Seamless		
JFE Steel Corporation	Japan	
Michigan Seamless Tube	USA	
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation
Tenaris Group • NKK • Siderca • Tamsa	Italy Japan Argentina Mexico	
Vallourec Group • Vallourec Star • Vallourec Solucoes Tubulares do Brazil • Vallourec Deutschland GmbH • Vallourec	USA Brazil Germany France, Canada	Was Vallourec and Mannesman Tube

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Vendor	Location	Remarks
1.04 Pipe – Stainless Steel: 300 Series; Welded		
H.Butting Gmbh & Company KG	Germany	
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation
Outokumpu	Finland, USA, Sweden, UK, Germany	
PCC Energy Group • Rath Gibson	USA	Was Rath Manufacturing Company Inc.
Primus Pipe and Tube	USA	
Ratnamani Metals and Tubes	India	Audit required, see section 4
Seah Global	Korea, USA	
Sitindustrie Tubes & Pipes SPA	Italy, France	
Swepeco Tube	USA	
Ta Chen	Taiwan, USA	
1.05 Pipe – Stainless Steel: 300 Series; Seamless		
Centravis		
Mariuchi Stainless Tube Co., Ltd	Japan	Was Kobe Special Tube Company Ltd and Kobelco Special Tube Company
Michigan Seamless Tube	USA	
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation
Plymouth Tube Company	USA	
Ratnamani Metals and Tubes	India	Audit required, see section 4
Salzgitter Mannesmann	USA, Germany, Italy, France	
Sandvik Group • Sandvik • Pexco	USA, Sweden, Czech, Canada USA	
Schulz Xtruded Products (SXP)	USA	
Seah Global	Korea, USA	
Tubacex Group • Schoeller Bleckmann Edelstahlrohr GmbH • Tubacex	USA, Austria Spain	

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Vendor	Location	Remarks
1.06 Pipe – Stainless Steel: Duplex and Super Austenitic – Seamless and Welded		
H.Butting Gmbh & Company KG	Germany	
Kobelco Special Tube Company, Ltd.	Japan	Was Kobe Special Tube Company Ltd.
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation
Plymouth Tube Company <ul style="list-style-type: none"> Plymouth Tube Trent Tube 	USA USA	
PCC Energy Group <ul style="list-style-type: none"> Rath Gibson 	USA	Was Rath Manufacturing Company Inc.
Primus Pipe and Tube	USA	
Salzgitter Mannesmann	USA, Germany Italy, France	DMV
Sandvik Group <ul style="list-style-type: none"> Sandvik Pexco 	USA, Sweden, Czech, Canada USA	
Schoeller Bleckmann Edelstahlrohr GmbH	USA, Austria	
Schulz Xtruded Products (SXP)	USA	
Swepco Tube	USA	
Tubacex	Spain	
1.07 Pipe – Nickel and Nickel Alloys – Seamless and Welded		
Haynes International	USA	
Kobelco Special Tube Company, Ltd.	Japan	Was Kobe Special Tube Company, Ltd.
NSSMC	Japan	Was Nippon Steel and Sumitomo Metals Corporation
Outokumpu	Finland, USA Sweden, UK Germany	
Plymouth Tube Company <ul style="list-style-type: none"> Plymouth Tube Trent Tube 	USA USA	
PCC Energy Group <ul style="list-style-type: none"> Rath Gibson Special Metals Corporation 	USA USA	Was Rath Manufacturing Company Inc.
Primus Pipe and Tube	USA	
Salzgitter Mannesmann	USA, Germany , Italy, France	DMV
Sandvik Group <ul style="list-style-type: none"> Sandvik Pexco 	USA, Sweden, Czech, Canada USA	

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Vendor	Location	Remarks
Schulz Xtruded Products (SXP)	USA	
Swepeco Tube	USA	
VDM Metals	USA	Was ThyssenKrupp VDM USA, Inc.
1.08 Pipe – Other Materials and Construction – Seamless and Welded		
1.08.01 Copper and Copper Alloys		
Alaskan Copper	USA	
Cerro Flow Products	USA	
H & H Tube	USA	
Mueller Industries	USA	
1.08.02 Aluminum and Aluminum Alloys – Seamless and Welded		
Hydro		
• Extruded Solutions	USA	Was Cressona Aluminum Company
Swepeco Tube	USA	
1.08.03 Exotic Alloys (Titanium, Tantalum, Zirconium, etc.) – Seamless and Welded		
ALCOA	USA	Was RTI International
TIFAB	USA	
PCC Energy Group		
• TIMET	USA	
Titanium Industries	USA	
Neotiss	France	Was Valmet part of V & M Group
ATI Group		
• Wah Chang	USA	
1.08.04 Other Constructions		
S & T International	USA	Large diameter pipe from rolled plate - short runs of carbon and low alloy steel
1.08.05 Miscellaneous		
Vendors for the following items are located in the commodity catalog:		
<ul style="list-style-type: none"> • Glass • Glass Lined Steel • Thermoplastic • Thermoplastic Lined Steel • Fiberglass (Off the Shelf; Not Custom Made) • Underground Pipe (Cl Soil, Cement Lined, etc.) • Specialty Piping 		

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Vendor	Location	Remarks
2. Seamless and Welded Fittings		
2.01 Seamless and Welded Fittings – Carbon Steel		
APP	USA	
Awaji Material Co., Ltd.	Thailand	
Canadoil Group • Benex Corporation (Benkan) • Canadoil Forge	Canada Japan	
The Colonial Machine Co. Inc. (Stub Ends Only)	USA	
Custom Alloy Corporation	USA	
Dynamic Products Inc.	USA	
Erne Fittings Inc.	Austria	
Allied Group		
• EzeFlow Inc.	Canada	
• Interfit SAS	USA France	Was Vallourec Group Seamless
PCC Energy Corp. • Flo-Bend • Hackney	USA USA	
Jero - (Stub Ends Only)	USA	
Mills Iron Works, Inc.	USA	Reducers, caps, and swages
Steel Forgings, Inc.	USA	
Sungkwang Bend (SK Bend)	Korea	
Tenaris	Mexico	
TK Corporation	Korea	
Tube Forgings of America, Inc. (TFA)	USA	
Weldbend Corporation	USA	
Wilhelm Geldbach	Germany	
2.02 Seamless and Welded Fittings – Low and Intermediate Alloy Steel		
Benex Corporation (Benkan)	Japan	
Canadoil Group • Canadoil Forge	Canada	
Custom Alloy Corporation	USA	
Dynamic Products Inc.	USA	
Erne Fittings Inc.	Austria	
Allied Group		
• EzeFlow Inc.	Canada	Was Eze Flow Group
Steel Forgings, Inc.	USA	
Sungkwang Bend (SK Bend)	Korea	
Wilhelm Geldbach	Germany	

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Vendor	Location	Remarks
2.03 Seamless and Welded Fittings – Stainless Steel: 300 Series		
Allied Group • EzeFlow Inc. • Flowline	Canada USA	Was Eze Flow Group
Alloy Piping Products (APP)	USA	
Awaji Materia Co., Ltd.	Thailand	Awaji Materia Co., Ltd.
Benex Corporation (Benkan)	Canada	
Core Pipe • Picor	USA	
Custom Alloy Corporation	USA	
DB Piping Group • Abe Fittings	USA	
Dynamic Products Inc.	USA	
Erne Group • Erne Fittings Inc.	Austria	
Flo-Mac Inc.	USA	
H. BUTTING GmbH & Co. KG	Germany	
Jero (Stub Ends Only)	USA	
Taylor Forge	USA	
Sungkwang Bend (SK Bend)	Korea	
Wilhelm Schulz	Germany	
2.04 Seamless and Welded Fittings – Stainless Steel: Duplex and Super Austenitic		
Allied Group • EzeFlow Inc. • Flowline	Canada USA	Was Eze Flow Group
Alloy Piping Products (APP)	USA	
Benex Corporation (Benkan)	Japan	
Core Pipe	USA	
Corrosion Materials	USA	
Custom Alloy Corporation	USA	
DB Piping Group • ABE Fittings	USA	
Flo-Mac Inc.	USA	
H. BUTTING GmbH & Co. KG	Germany	
J & J Alloys	USA	
Taylor Forge	USA	
Wilhelm Schulz	Germany	Wilhelm Schulz

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Vendor	Location	Remarks
2.05 Seamless and Welded Fittings – Nickel and Nickel Alloys		
Allied Group • Eze Flow Inc. • Flowline	Canada USA	Was Eze Flow Group
Alloy Piping Products (APP)	USA	
Core Pipe	USA	
Corrosion Materials	USA	
Custom Alloy Corporation	USA	Genoyer Group
Flo-Mac Inc.	USA	
H. BUTTING GmbH & Co. KG	Germany	
PCC Energy Corp. • Ladish	USA	
Haynes International, Inc.	USA	
J & J Alloys	USA	
Taylor Forge	USA	
Wilhelm Schulz	Germany	Wilhelm Schulz
2.06 Seamless and Welded Fittings – Other Materials and Construction		
2.06.01 Copper and Copper Alloys		
Alaskan Copper	USA	
Merit Brass Company (seamless only)	USA	
Mueller Industries	USA	
NIBCO INC.	USA	
2.06.02 Seamless and Welded Aluminum and Aluminum Alloys		
Custom Alloy Corporation	USA	
Allied Group • Flowline	USA	
PCC Energy Corp. • Ladish	USA	
2.06.03 Seamless and Welded Exotic Alloys (Titanium, Tantalum, Zirconium, etc.)		
Custom Alloy Corporation	USA	
PCC Energy Corp. • Ladish	USA	
Haynes International, Inc.	USA	
TIFAB	USA	
United Titanium	USA	
2.06.04 Miscellaneous		

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Vendor	Location	Remarks
<p>Vendors for the following items are located in the commodity catalog:</p> <ul style="list-style-type: none"> • Glass • Glass Lined Steel • Thermoplastic • Thermoplastic Lined Steel • Fiberglass (Off the Shelf; Not Custom Made) • Underground Fittings • Specialty Fittings 		
3. Forged Pressure Fittings and Branch Outlets		
3.01 Forged Pressure Fittings and Branch Outlets – Carbon Steel		
Anvil International <ul style="list-style-type: none"> • Anvil • Catawissa 	USA USA	
Bonney Forge Corp <ul style="list-style-type: none"> • Bonney Forge • WFI International 	USA USA	
Forged Vessel Connection (AF Global)	USA	
GMI Group	USA	
TechnipFMC	USA	Was FMC Technologies
I.M.L. Industria Meccanica Ligure S.P.A	Italy	Gruppo Farina
Kemper Valve & Fittings Corp.	USA	
M.E.G.A. S.P.A.	Italy, USA	
US Drop Forge, Co. <ul style="list-style-type: none"> • Pennsylvania Machine Works • Penn Texas 	USA USA	
Phoenix Forge Group <ul style="list-style-type: none"> • Camco • Capitol • Cap Products • Phoenix Forge 	USA USA Canada USA	
ULMA Group Ulma Piping	Spain	
Welding Outlets, Inc.	USA	
Westbrook	USA	
3.02 Forged Pressure Fittings and Branch Outlets – Low and Intermediate Alloy Steel		
Bonney Forge Corp <ul style="list-style-type: none"> • Bonney Forge • WFI International 	USA USA	
Corrosion Materials	USA	
Forged Components Inc.	USA	
I.M.L. Industria Meccanica Ligure S.P.A	Italy	Gruppo Farina
M.E.G.A. S.P.A	Italy	

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Vendor	Location	Remarks
US Drop Forge, Co. <ul style="list-style-type: none"> • Pennsylvania Machine Works • Penn Texas 	USA USA	
Phoenix Forge Group <ul style="list-style-type: none"> • Camco • Capitol • Cap Products • Phoenix Forge 	USA USA Canada USA	
Welding Outlets, Inc.	USA	
3.03 Forged Pressure Fittings and Branch Outlets – Stainless Steel and High Alloys		
Alloy Stainless Products (ASP)	USA	
Bonney Forge Corp <ul style="list-style-type: none"> • Bonney Forge • WFI International 	USA USA	
Dason Stainless Products Co.	USA	
Haynes International, Inc.	USA	
I.M.L. Industrial Meccanica Ligure S.P.A.	Italy	Gruppo Farina
M.E.G.A. S.P.A	Italy, USA	
US Drop Forge, Co. <ul style="list-style-type: none"> • Pennsylvania Machine Works • Penn Texas 	USA USA	
Phoenix Forge Group <ul style="list-style-type: none"> • Camco • Capitol • Cap Products • Phoenix Forge 	USA USA Canada USA	
Precision Components	USA	No O-lets
Welding Outlets, Inc.	USA	
Westbrook Energy Group <ul style="list-style-type: none"> • Westbrook 	USA	
4. Flanges		
4.01 Flanges – Carbon Steel		
AFGlobal <ul style="list-style-type: none"> • Coffe Flange 	USA	
Bebitz	Germany	
BFN Forging PVT	India	
Boltex Mfg. Co., Inc.	USA	
Buffalo Flange, Inc.	USA	
Echjay Forgings	India	
Federal Flange	USA	
Farina Group <ul style="list-style-type: none"> • Friedrich Geldbach 	Germany	

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Vendor	Location	Remarks
Galperti Group • Galperti, Inc.	USA, Italy	
GMI	USA	
PCC Energy Group • Hackney Ladish • Trinty • Flo-Bend	USA USA USA	
Kerkau Manufacturing	USA	
Korea Flange Co., Ltd. (Kofco)	Korea	
Metalfar	Italy	
National Flange & Fitting Co.	USA	
Ulma-Forja	Spain	
Weldbend Corporation	USA	
Western Forge & Flange Co. (WFF).	USA	
Wilhelm Geldbach	Germany	
4.02 Flanges – Low and Intermediate Alloy Steel		
AFGlobal • Coffe Flange • Texas Metal Works Flange	USA USA	
Federal Flange	USA	
PCC Energy Group. • Hackney • Ladish • Trinty • Flo-Bend	USA USA USA USA	
Korea Flange Co., Ltd. (Kofco)	Korea	
Maass Global Group • Maass Flange	USA, Mexico	
Metalfar	Italy	
Ulma-Forja	Spain	
Western Forge & Flange Co. (WFF)	USA	
Western of Texas Forge and Flange Co.	USA	
Wilhelm Geldbach	Germany	
4.03 Flanges – Stainless Steel: 300 Series		
AFGlobal • Coffe Flange • Texas Metal Works Flange	USA USA	
Buffalo Flange, Inc.	USA	
Core Pipe • Tubeline	USA	
Echjay	India	
Federal Flange	USA	

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Vendor	Location	Remarks
Galperti, Inc.	USA	
Kerkau	USA	
Korea Flange Co., Ltd. (Kofco)	Korea	
Maass Global Group • Maass Flange	USA, Mexico, Canada	
Metalfar	Italy	
Melesi	Italy	
National Flange & Fitting Co	USA	
Ulma-Forja	Spain	
Western Forge & Flange Co. (WFF)	USA	
Western of Texas Forge and Flange Co.	USA	
Wilhelm Geldbach	Germany	
4.04 Flanges – Stainless Steel: Duplex and Super Austenitic		
AFGlobal • Texas Metal Works	USA USA	
Core Pipe (Tubeline)	USA	
Federal Flange	USA	
Korea Flange Co., Ltd. (Kofco)	Korea	
Maass Global Group • Maass Flange	USA, Mexico	
Metalfar	Italy	
Melesi	Italy	
Western Forge & Flange Co. (WFF)	USA	
Western of Texas Forge and Flange Co.	USA	
4.05 Flanges – Nickel and Nickel Alloys		
AFGlobal • Texas Metal Works	USA USA	
Core Pipe	USA	
Corrosion Materials	USA	
Federal Flange	USA	
J & J Alloys	USA	
Maass Flange	USA, Mexico	
Melesi	Italy	
Western Forge & Flange Co. (WFF)	USA	
Western of Texas Forge and Flange Co.	USA	
4.06 Flanges – Other Materials and Construction		
4.06.01 Copper and Copper Alloys		
Alaskan Copper	USA	
Mueller Industries	USA	
NIBCO, Inc.	USA	

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Vendor	Location	Remarks
Western of Texas Forge and Flange Co.	USA	
4.06.02 Aluminum and Aluminum Alloys		
AFGlobal • Texas Metal Works	USA	
Allied Group		
• Flowline	USA	
PCC Energy Group. • Flo-Bend	USA	
Western Forge & Flange Co. (WFF)	USA	
Western of Texas Forge and Flange Co.	USA	
4.06.03 Exotic Alloys (Titanium, Tantalum, Zirconium, etc.)		
AFGlobal • Texas Metal Works	USA	
Corrosion Materials	USA	
Western Forge & Flange Co. (WFF)	USA	
4.06.04 Miscellaneous		
Vendors for the following items are located in the Commodity Catalog:		
<ul style="list-style-type: none"> • Glass Lined Steel • Thermoplastic • Thermoplastic Lined Steel • Fiberglass (Off the Shelf; Not Custom Made) • Underground Pipe Flanges • Specialty Flanges 		
5. Miscellaneous Piping Components		
5.01 Nipples and Swages		
Anvil International	USA	
Bonney Forge Corp • Bonney Forge • WFI International	USA USA	
I.M.L. Industria Meccanica Ligure S.P.A	Italy	Gruppo Farina
Mills Iron Works, Inc.	USA	Reducers, caps, and swages
Pennsylvania Machine Works	USA	
Penn Texas	USA	
Phoenix Forge Group • Capitol • Camco • Cap Products • Phoenix Forge	USA USA Canada USA	
Welding Outlets, Inc	USA	
Westbrook	USA	

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Vendor	Location	Remarks
Ward Manufacturing	USA	Was Wisconsin Nipple and Fitting Corp.
5.02 Flexible Metallic Tubing		
5.02.01 Stainless Steel		
Steel Partners Holdings LP • Handy Tube	USA	Was Handy & Harman
Wytech Industries Inc. • Micro Tube Fabricators (MTF)	USA	
Plymouth Tube Company • Plymouth Tube • Trent Tube	USA USA	
PCC Energy Group • Rath Gibson • Greenville Tube Company (GTC)	USA USA	
Salem Tube, Inc.	USA	Tubacex Group
Salzgitter Mannesmann	USA, Germany, Italy, France	DMV
Sandvik Group • Sandvik	USA, Sweden, Czech, Canada	
Superior Tube	USA	
5.02.02 Copper		
Alaskan Copper	USA	
Cambridge Lee	USA	
Cerro Flow Products	USA	
H & H Tube	USA	
Mueller Industries	USA	
National Copper	USA	
5.02.03 High Alloy		
PCC Energy Group • Rath Gibson	USA	Was Rath Manufacturing Company Inc.
Salzgitter Mannesmann	USA, Germany, Italy, France	DMV
Superior Tube	USA	
5.03 Chainwheel Operators		
Babbit Steam Specialty Co. • Babbit Chainwheels	USA	
Rotork • Roto Hammer Industries	USA	

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Vendor	Location	Remarks
Trumbull Manufacturing Inc.	USA	
6. Fasteners		
6.01 Bolts and Nuts		
Dan-Loc Bolt & Gasket Corp	USA	
Highland Threads, Inc.	USA	
Lamons	USA, China, Germany, Netherlands	
Lone Star Fastener	USA	
Nucor Vulcraft Group • Nucor Fasteners	USA	
7. Gaskets		
Gasket Vendors are listed in the commodity catalog.		
8. Valves		
Valve Vendors are listed in the commodity catalog.		
9. Miscellaneous Services		
9.01 Pipe Bending		
Bendco	USA	
Houston Pipe Bending	USA	
Tulsa Tube Bending	USA	
9.02 Special Fabricated Fittings (to be approved by Covestro Prior to Fabrication)		
Cameo Fabricators	USA	
Gulf Manufacturing	USA	
Precision Flange and Machine	USA	
9.03 Custom Fittings		
Precision Components	USA	Specialty Vendor. Needs verification of products (seamless only)
Flo-Mac Inc.	USA	Specialty Vendor. Needs verification of products (seamless only)
10. Cast and Malleable Fittings		
10.01 Cast Iron Fittings		
Anvil International, INC.	USA	
Ward Manufacturing LLC	USA	
10.02 Malleable Iron Fittings		
Anvil International, INC.	USA	
Mueller Industries	USA	
Ward Manufacturing LLC	USA	

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Vendor	Location	Remarks
10.03 Cast or Forged Low-Pressure Stainless-Steel Fittings (Socket Weld and Threaded)		
Alloy Stainless Products (ASP)	Taiwan	
Pheonix Forge Group <ul style="list-style-type: none"> • Camco Fittings Co. • Capitol Manufacturing 	Taiwan Taiwan	
11. Unions		
Alloy Stainless Products (ASP)	USA	
Anvil International	USA	
Bonney Forge Corp	USA	
Camco Fitting Co.	USA, Canada	
Capitol Manufacturing Co.	USA	
TechnipFMC	USA	Was FMC Technologies
IML	Italy	
MEGA	Italy	
Mueller Industries	USA	
Ward Manufacturing LLC	USA	
Watts Regulator Co.	USA	

Amendments

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For previous editions, refer to the Historical Documents published on the Covestro website.

For information on changes from previous editions, refer to the Revision Notes published on the Covestro website.

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