

## UTILIZE THE POWER OF COLD ROLL EXTRUSION FROM PCC ROLLMET.

**Rollmet seamless sets the standard for large diameter stainless steel and duplex stainless steel pipe and tube for the power, petrochemical and nuclear industries.**

### COLD ROLL EXTRUSION METHODS

- Strengths of Cold Roll Extruded solid-solution alloy pipes are usually greater than those of conventional manufactured pipe/tube because of the fine grain size achieved through cold working and recrystallization
- Cold Roll Extrusion, as a net process, achieves final pipe dimensions through metal displacement
- Cold Roll Extrusion is performed at ambient room temperature
- Cold Roll Extrusion utilizes precision stainless steel and duplex starting blanks or extruded preforms as starting material for all stainless and duplex and super duplex production
- Isotropic properties achieved either as a cold worked tubular or in a finished annealed tubular
- Enhanced corrosion resistance achieved through ASTM 5 or finer grain size

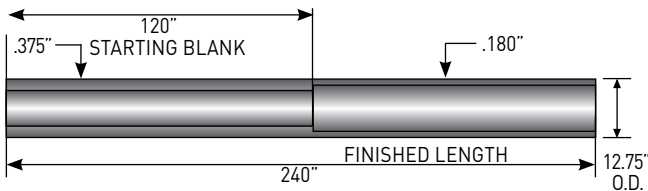
### PRODUCTION DETAILS

- Austenitic Stainless Steel ASTM A312/376 – 300 SERIES
- Ferritic/Austenitic Stainless Steel ASTM A790 – S31803 DUPLEX and S32750 SUPER DUPLEX
- Rollmet seamless pipe and tube is available in many other alloys such as zirconium, titanium, Alloy 200, 400, 600, 625, 718, 825, Alloy 20 and C276
- Specializing in large diameter thin wall pipe and tube
- 140 RA or better – I.D. finish
- Single random lengths – ASTM allowables
- Fine grain size for stainless grades runs 6 to 8 typical
- Wall tolerances better than ASTM allowables
- 50 years of manufacturing experience
- Minimum 35% cold work



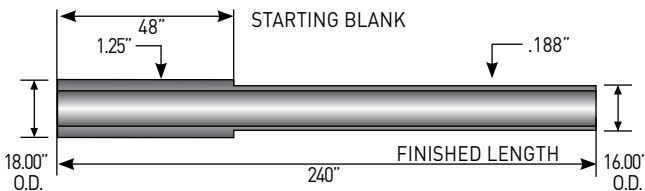
## PCC Rollmet, Inc. manufactures seamless pipe and tube using two methods of Cold Roll Extrusion.

**INTERNAL COLD ROLL EXTRUSION.** The starting hollow is placed inside a one piece, cylindrical die ring. The rollers inside the starting hollow are displaced radially outward until they bite into the inside diameter of the hollow surface a controlled amount. The hollow outside diameter remains constant while the rollers produce a thinner wall with a corresponding increase in I.D. and hollow length in a single pass.



*Internal Cold Roll Extruded cylinder typical starting blank, demonstrating material economy and axial growth in length while keeping the O.D. constant during Internal Cold Roll Extrusion.*

**EXTERNAL COLD ROLL EXTRUSION.** External Cold Roll Extrusion utilizes a mandrel over which the hollow is placed. Two (2) annular die rings are brought into position on the hollow. The mandrel and hollow are rotated while the die rings progress axially through a series of passes. This simultaneously reduces wall thickness and O.D. while the hollow grows in length. The I.D. remains constant.



*External Cold Roll Extruded cylinder typical starting blank, demonstrating material economy and axial growth in length while keeping the I.D. constant during External Cold Roll Extrusion.*



## MANUFACTURING RANGE

PIPE SIZES	OUTSIDE DIAMETERS	ASA PIPE SCHEDULE							
		5S	10S	10	20	30	40S/STD	80S/XH	40
6"	6.625	.109	.134						
8"	8.625	.109	.148						
10"	10.750	.134	.165	.250		.365			
12"	12.750	.156	.180	.250	.330	.375	.500		
14"	14.000	.156	.188	.250	.312	.375	.375	.500	
16"	16.000	.165	.188	.250	.312	.375	.375	.500	.500
18"	18.000	.165	.188	.250	.312	.438	.375	.500	.562
20"	20.000	.188	.218	.250	.312	.500	.375	.500	.594
22"	22.000	.188	.218	.250	.375	.500	.375	.500	
24"	24.000	.218	.250	.250	.375	.562	.375	.500	.688
26"	26.000	—	.250	.312	.500	.625	.375	.500	.625

\* Wall sizes available up to 1.5" on certain pipe sizes

## DIMENSIONS OF SEAMLESS TUBE \*

TUBE SIZE	DIAMETER	WALLS	WALLS	WALLS	WALLS
6"	6.00	.065	.083	.109	.120
8"	8.00	.065	.083	.109	.120
10"	10.00		.109	.120	.188
12"	12.00		.109	.120	.188

\* Most diameter and light wall combinations of seamless tubes can be manufactured by PCC Rollmet, Inc.

## QUALITY CERTIFICATIONS

- AS9100/ISO9001
- PED approved to Directive 97/23/EC
- ISO 9001 approved
- AD2000-Merkblatt W0 approved

**PCC ROLLMET** for over 50 years, has delivered high quality, precision seamless pipe in nickel, stainless steel, duplex stainless, and ferritic alloys. Backed by the global support of the PCC Energy group of companies, we provide on time delivery and material that meets all critical specification requirements, coupled with practical solutions for all your seamless piping needs.

## FOR MORE INFORMATION CONTACT:

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