



Roll Bonded Pipe & Tube Transitions

What is roll bonding?

Roll bonding is a solid state welding process in which two or more metals are passed through a pair of rollers. The immense pressure creates a permanent metallurgical bond between dissimilar metals.

What is a metallurgical bond?

A metallurgical bond is a permanent bond of metals characterized by diffusion, alloying, or intermolecular attraction caused by high pressure. This allows dissimilar metals to bond together as one. The resulting bond is stronger than the weaker material and has no thermal or electrical resistance.

About Spur

Based in Spokane, Washington, Spur Industries is an industry leader in the world of clad metals and roll bonding. We specialize in aluminum alloys but our experience with numerous other materials is extensive. Our 40+ years of experience gives us the knowledge and expertise to create personalized solutions for even the most demanding applications.



Heat Exchanger Tube Transition
304L Stainless to 3003 Aluminum

Bimetal Solutions for Demanding Applications

- High strength
- Low permeability
- No galvanic corrosion
- Supports common weld methods

Weld Similar Metals



Spur Fluid Transition

Solutions

Weld Rings:



Spur's standard weld rings are made from either steel, or stainless steel, bonded to aluminium. Standard sizes are for .75in tubes to 8in diameter pipes and with support both schedule 10, 40 and 80. With a hefty 0.5in wall thickness they can be both TIG and MIG welded with confidence.

Machined Fittings:



Leverage our extensive history of 3003 aluminium to 304L stainless, or create a new material combination perfect for you application. Quick turn configuration is less than 0.50 inches of material per side of the bond.

Contact Info

Spur Industries Inc.
17404 E. Euclid Avenue
Spokane, WA 99216 USA

(509) 924-2800

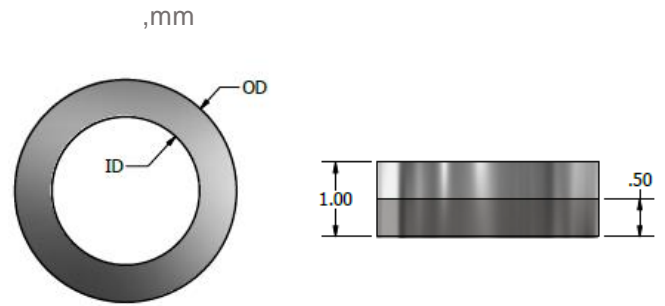
How it Works

The roll bonding process uses high pressure to form a metallurgical bond between two or more metals. The result is bonded material that can be machined into components that meet the exact specifications of your project. The final components are easily implemented into your application. Simply weld each side to its respective metal and let the Spur bond take care of the rest. Metallurgical bonds are able to withstand extremely high temperature and pressure while providing no risk of galvanic corrosion. Typical welding techniques such as MIG, TIG, EB, or laser can be used which means no need for special equipment.

Visit Our Website: www.spurind.com

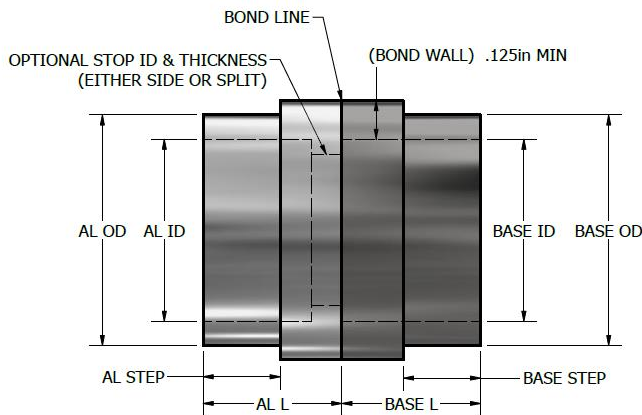
Standard Weld Rings

Pipe Size	BiMetal Ring (in)		Part Number	
	ID	OD	1050 AL 1008 Steel	3003 AL 304L Stainless
0.75	1.11	2.11	40-10001	40-10012
1	1.37	2.37	40-10002	40-10013
1.25	1.72	2.72	40-10003	40-10014
1.5	1.96	2.96	40-10004	40-10015
2	2.43	3.43	40-10005	40-10016
2.5	2.93	3.93	40-10006	40-10017
3	3.56	4.56	40-10007	40-10018
4	4.56	5.56	40-10008	40-10019
5	5.62	6.62	40-10009	40-10020
6	6.68	7.68	40-10010	40-10021
8	8.75	9.75	40-10011	40-10022



- 120+MPa Strength
- Short lead-times
- Waterjet finish
- Custom versions available

Machined Fittings



- Clad material
 - 3003 Aluminum is standard
 - Other materials available
- Base material
 - 304/304L Stainless steel is standard
 - Other materials supported
- Precision CNC tolerances
 - Standard tolerance +/- .005in
 - Precision tolerance < .002in
- No minimum quantity

Testing

- 90 Degree bend test – standard
- Ultrasound scanning
- Burst pressure
- Helium leak

Welding

- Do not exceed 750°F at the bond line
- Preferably weld aluminum side first
- Custom weld services available

Contact Info



Spur Industries Inc.
17404 E. Euclid Avenue
Spokane, WA 99216 USA

(509) 924-2800

Visit Our Website: www.spurind.com

