

# RESISTOFLEX®



## WELD SPECIFICATION FOR SUPPLIED HOUSINGS

## GUIDELINE FOR PARTS TO BE ROTATIONALLY LINED

**CRANE**®

**v in** [www.cranecpe.com](http://www.cranecpe.com)

## Guideline for Parts to be Rotationally Lined

1. Flanges must be lap joint, slip-on, or weld neck, ASME Class 150 or Class 300. Other flange standards may be possible to line – consult factory. Weld Neck and Slip-on Flanges must be radiused at the bore per the table in figure 1 Lap joint metal lap to meet minimum diameter per figure 2.
2. All flange face radii must be ground/machined per radius as shown in tables in figure 1 and figure 2. All other interior sharp edges or corners must be ground/machined to a minimum radius of 0.250.
3. Pipe, fittings, and flanges must be welded per ANSI B31.3. For slip-on flanges, only, the fabricator must provide a 0.094" dia. vent hole for the space between the hub I.D. of the flange, and the pipe O.D. Detail for this vent hole is in figure 1.
4. Butt-weld fittings and any pipe used for stub-ends or branches must be of the same pipe schedule to assure proper processing and wall thickness throughout the part. If there is a step where the butt-weld fitting meets the pipe, the step must be machined or ground prior to assembly welding of the housing.
5. All welded joints must have porosity-free welds, and interior weld areas must be ground smooth.  
**IMPORTANT:** Any butt-welds that cannot be accessed for grinding must have no burn-through. Any burn-through not ground flush will compromise the liner integrity.
6. Interior cannot contain any permanent baffles, welded cleats, supports, or any other protrusion, without factory approval of design.
7. Interior must be free of weld spatter and slag, and all welds areas must be blasted, visually inspected, and dye penetrant tested. Porosity must be in accordance with ASME B31.3. Excess porosity will result in bubbles in the liner, which is a cause for rejection. RESISTOFLEX® will additionally perform dye penetrant testing. Non-conforming parts will be subject to Item 10 of this document.
8. Recommended minimum outlet diameter is 1.5". Deviation from this requires factory approval and design.
9. Due to the relationship between housing geometry and heat transfer as it relates to rotational lining, it is highly recommended that the fabricator submit a print to RESISTOFLEX® for review prior to fabrication including any special requirement for flare thickness. To provide optimum performance, concave surfaces of lining viewed from inside should be avoided whenever possible.
10. Any additional grinding, re-welding, or other work done by RESISTOFLEX® necessary to bring a customer-fabricated piece into compliance with these requirements will be for the Purchaser's account. In the event a part does not meet these requirements, RESISTOFLEX® will notify Purchaser of the need for such work with a cost estimate to perform the work. Purchaser must submit written approval to perform the work before the order will proceed or any work is performed.
11. For brand new housing, once the housing is ready to ship, a Return Authorization Number (RAN) will be issued to ship the housing to RESISTOFLEX®.
12. If housing has been in use prior to shipment to RESISTOFLEX®, the Returned Material Report Form RX100 must be filled out for analysis and acceptance first. This document ensures housing that has previously been in use is safe and ready for lining. Once this document has been accepted, a Return Authorization Number (RAN) will be issued to ship the prior-used housing to RESISTOFLEX®.

## Flange Requirements

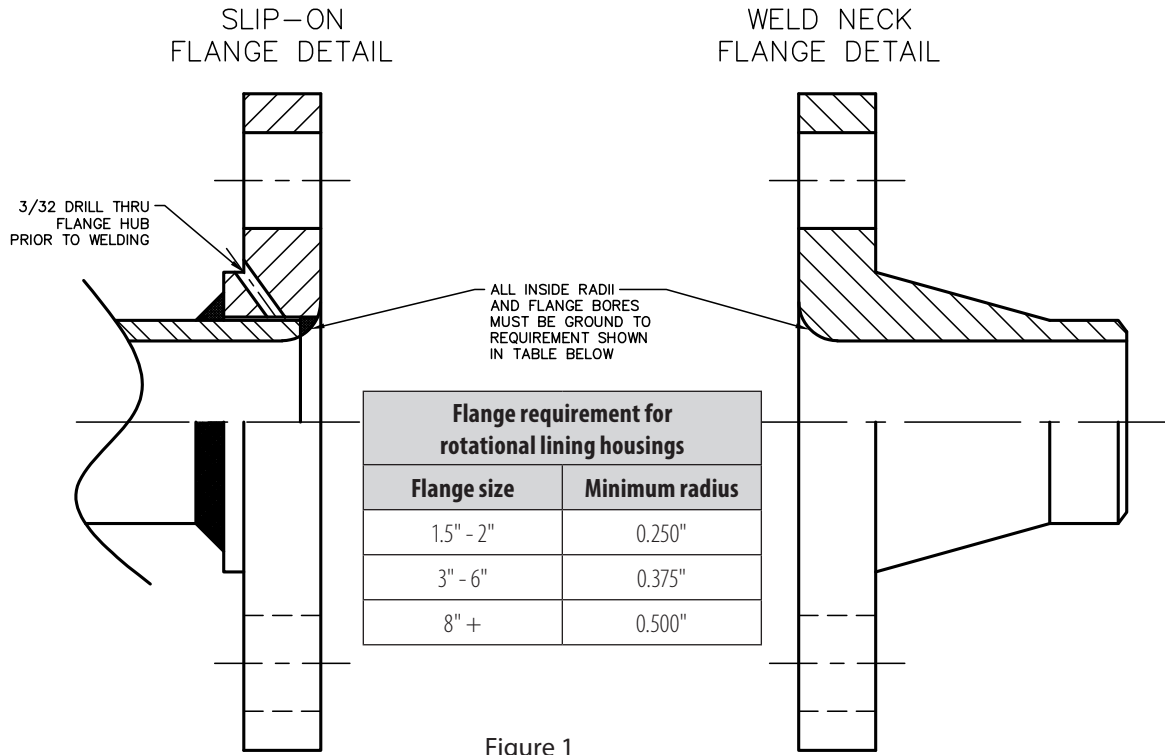


Figure 1

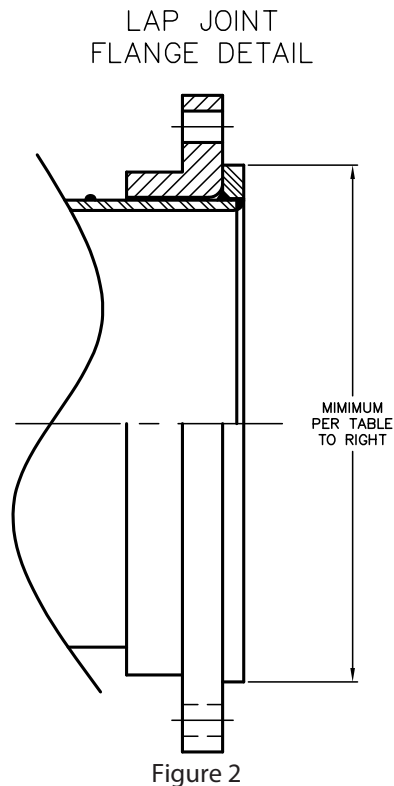
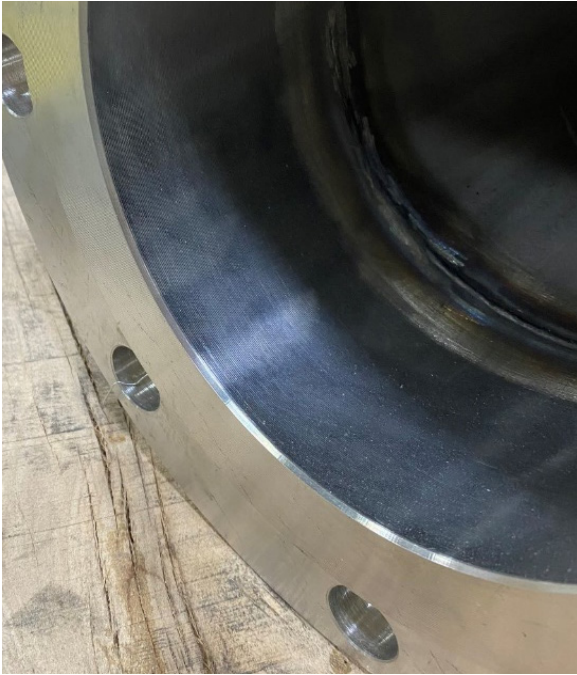


Figure 2

Lap joint flange metal lap minimum diameter	
Flange size	Minimum diameter
1.5"	3.188"
2"	3.938"
3"	5.125"
4"	6.500"
6"	8.563"
8"	10.688"
10"	13.000"
12"	15.750"
14"	17.563"
16"	20.063"
18"	21.438"
20"	23.688"
24"	28.063"

## Examples of Non-Conforming Housing

Flange face radius not ground / machined to appropriate radius



Flange face radius not ground / machined to appropriate radius



Flange face radius not ground / machined to appropriate radius



Burn-through or slag not ground smooth after welding



## Examples of Non-Conforming Housing

The transition does not have a radius on the corner and has imperfections



The weld quality looks poor but has been ground down



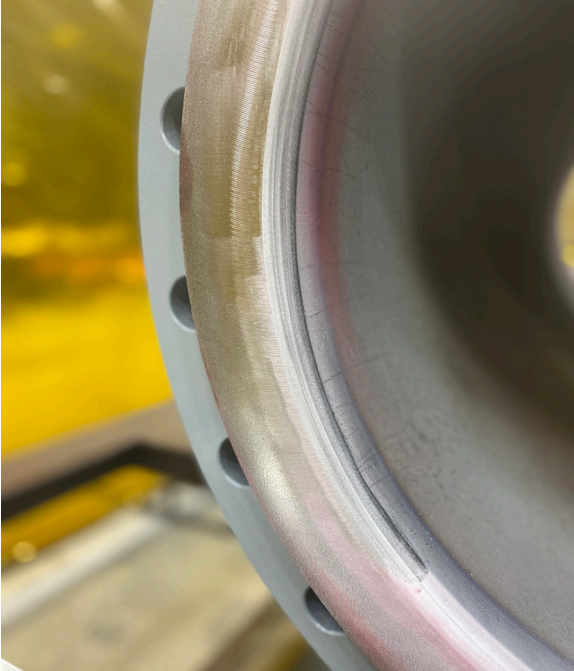
Weld is incomplete and has not been ground smooth



## Examples of Conforming Flanges

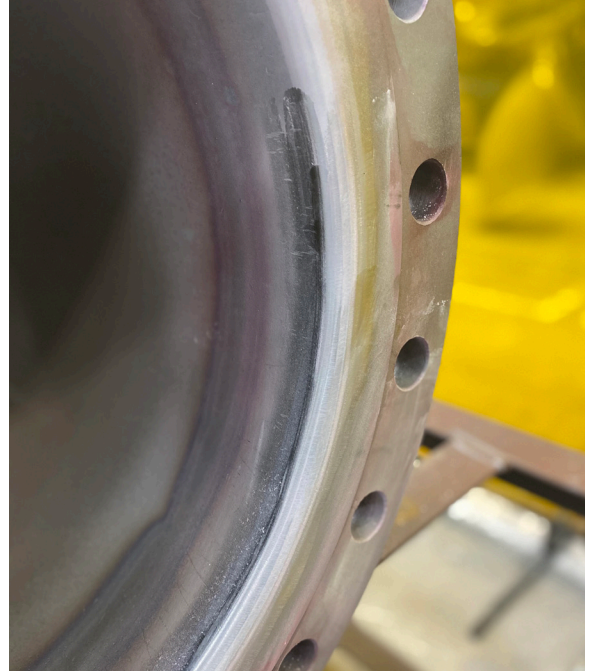
### Lap Joint Flanges

Smooth radius per spec on face of weld ring



### Slip-on Flanges

Smooth radius per spec on flange face



Complete and uniform weld on backside of weld ring



Complete and uniform weld on backside of slip-on flange with vent hole



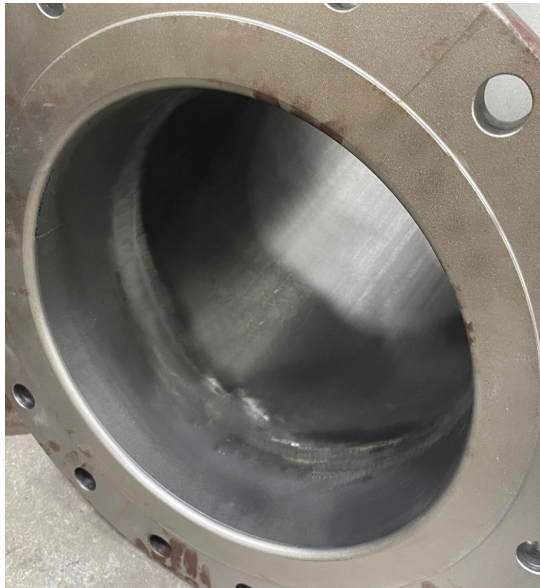
## Examples of Conforming Flanges

### Weld Neck Flanges

Smooth radius per spec on flange face



Internal Profiles of weld neck and pipe smooth with no offset



**CRANE**<sup>®</sup>

---

**CRANE CHEMPHARMA & ENERGY**

One Quality Way,  
Marion, NC  
USA 28752  
Tel: (828) 724-4000

---

Crane Co., and its subsidiaries cannot accept responsibility for possible errors in catalogues, brochures, other printed materials, and website information. Crane Co. reserves the right to alter its products without notice, including products already on order provided that such alteration can be made without changes being necessary in specifications already agreed. All trademarks in this material are the property of the Crane Co. or its subsidiaries. The Crane and Crane brands logotype (CENTER LINE<sup>®</sup>, COMPAC-NOZ<sup>®</sup>, CRANE<sup>®</sup>, DEPA<sup>®</sup> & ELRO<sup>®</sup>, DOPAK<sup>®</sup>, DUO-CHEK<sup>®</sup>, FLOWSEAL<sup>®</sup>, GYROLOK<sup>®</sup>, GO REGULATOR<sup>®</sup>, HOKE<sup>®</sup>, JENKINS<sup>®</sup>, KROMBACH<sup>®</sup>, NOZ-CHEK<sup>®</sup>, PACIFIC VALVES<sup>®</sup>, RESISTOFLEX<sup>®</sup>, REVO<sup>®</sup>, SAUNDERS<sup>®</sup>, STOCKHAM<sup>®</sup>, TEXAS SAMPLING<sup>®</sup>, TRIANGLE<sup>®</sup>, UNI-CHEK<sup>®</sup>, VALVES<sup>®</sup>, WESTLOCK CONTROLS<sup>®</sup>, WTA<sup>®</sup>, and XOMOX<sup>®</sup>) are registered trademarks of Crane Co. All rights reserved.