

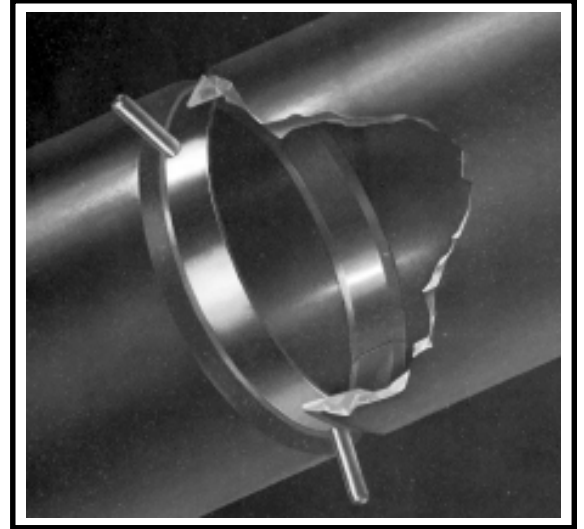


BACKING RINGS™

Simplify Pipe Welding and Reduce Costs!

Design Originators Since 1943

Robvon Commercial Backing Rings are designed for quick, easy alignment of pipe or tubing and assure precise close tolerance fit-up. They allow complete penetration and fusion of the weld and radiograph perfect certified welds. The patented NUBS automatically set the weld gap for the root-pass. Internal bevels and flat inner lands assure non-restricted fluid flow. Robvon Backing Rings are available in Carbon Steel, Chrome Alloys, Stainless Steel, Aluminum, Nickel, Cupro Nickel, and other exotic materials.



TYPE CCC

ROBVON TYPE "CCC-NUB" BACKING RINGS are designed for quick easy alignment of pipe where the variation in inside diameters is relatively great. Chamfered NUBS allow close tolerance fit-up and CLEAN STRIKE OFF. The ROBVON NUB diameter automatically sets the welding gap for root pass as the width of the NUB conforms to the diameter of welding rod or electrode. ROBVON rings are bevelled to assure non-restricted fluid flow.



TYPE CC

ROBVON TYPE "CC-NUB" BACKING RINGS are designed to allow quick easy alignment of pipe where the inside diameters are slightly out-of-round. The welder has the choice of STRIKING OFF THE NUBS or leaving them intact. NUBS melt with metal to give complete penetration and fusion. ROBVON rings eliminate the necessity of tack welding and radiograph a perfect certified weld. Type CC-NUB is recommended for automatic welders.



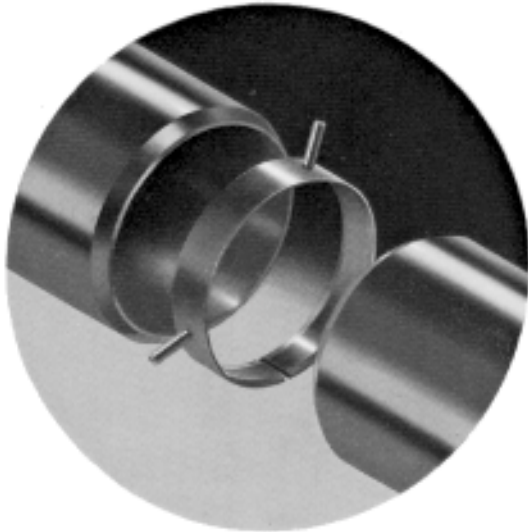
TYPE C

ROBVON TYPE "C-NUB" BACKING RINGS are designed for precise close tolerance fit-up. TYPE "C-NUB" NUBS conform to the diameter of the weld root and melt with the metal to give complete penetration and fusion. ROBVON RINGS are bevelled to assure non-restricted fluid flow and eliminate the necessity of tack welding. All ROBVON BACKING RINGS radiograph perfect certified welds.

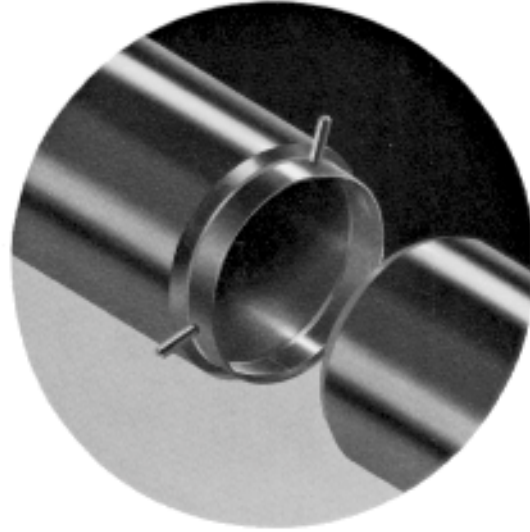
FOR COMPLETE SPECIFICATIONS AND PRODUCT DATA SEE PAGE 4.



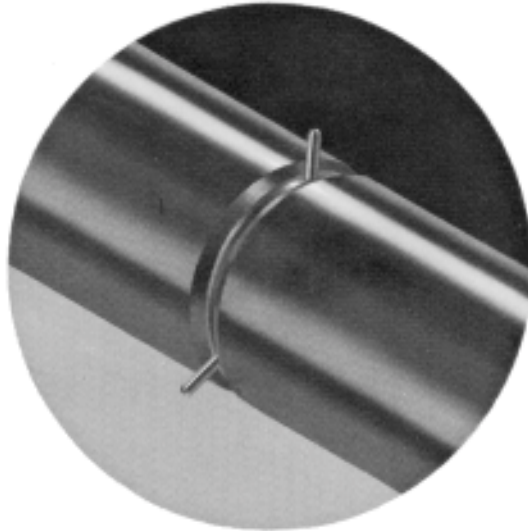
SIMPLIFIED FIT-UP PROCEDURE USING ROBVON BACKING RINGS



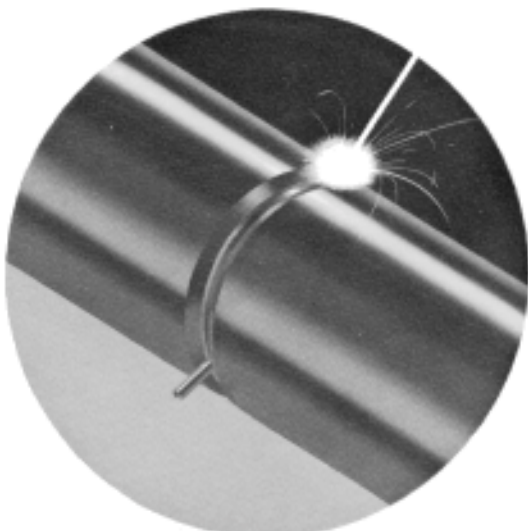
STEP 1



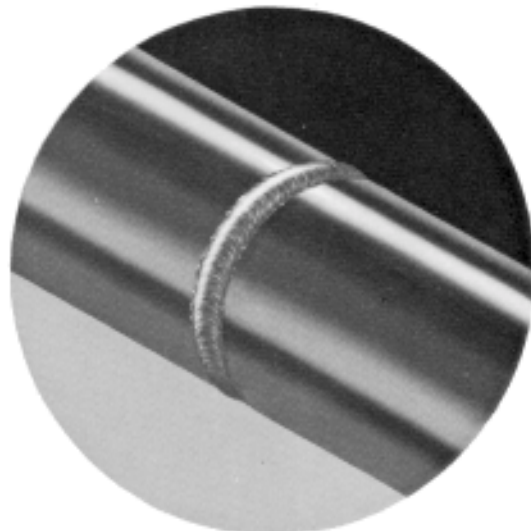
STEP 2



STEP 3



STEP 4



STEP 5



WELDING PROCEDURE

The ROBVON BACKING RING is inserted into one bevelled pipe end with the spacer NUBS flush against the pipe face and ring gap (split) positioned in general area of first bead deposition.

The bevelled end of the adjoining pipe, tube, fitting, or valve is slipped onto the ROBVON BACKING RING until the face of the bevelled pipe is firmly abutted against the spacer NUBS. Diameter of NUBS automatically sets an adequate root opening allowing the welder total root access for a complete penetration weld.

Strike-off the first spacer NUB - if type CCC has been employed: CC NUBS may be chipped-off if desired or left intact to be melted during root pass. With normal welding current for electrode selected, initiate the deposition of weld at least one inch from ring gap - proceed with root bead **away** from ring gap, repeating NUB removal procedure when applicable. Note: CCC-NUBS, the 3/4" long spacer NUBS, must be removed!

The root bead is deposited by directing the arc to penetrate the inner faces of both butt joint ends and the ROBVON RING. The molten metal should penetrate into the ROBVON RING approximately fifty percent thereby forming an integral homogeneous welded joint. The CC-NUB and non-removable C-NUB Rings are readily and completely fused into a homogeneous weld without the use of a special technique. STARTS AND STOPS DURING DEPOSITION OF THE ROOT PASS SHOULD BE NECESSARILY AVOIDED AT THE CC AND C-NUB LOCATIONS AND AT THE SPLIT (GAP) IN THE RING.

During welding, the heat of the molten metal will expand the ring and force it against the inner surfaces of the pipe, thereby eliminating gaps, crevices or openings between the ring and the pipe, tube, fitting, or valve.

The ROBVON TYPE CCC-NUB BACKING RING is especially suited for fast economical fit-up in pipe, tube, fittings and valves where variation in inside diameters is relatively great. Extra-long chamfered NUBS maintain the established root opening under most adverse fit-up conditions and are removed in the welding process.

The ROBVON TYPE CC-NUB BACKING RING is especially suited for automatic welding and to allow quick easy joint alignment where the inside diameters are slightly out-of-round. NUBS can be chipped-off or left intact to be melted into first root pass.

The ROBVON TYPE C-NUB BACKING RING is especially suited for fast economical fit-up in pipe, tube, fittings and valves having reasonably uniform inside diameters in each size and wall thickness. The C-NUB is not recommended for use in adverse fit-up conditions.

After root pass is completed, proceed to fill and finish the weld with additional passes using welding process chosen.

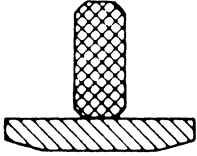


GENERAL BACKING RING SPECIFICATIONS AND PRODUCT DATA

BACKING RINGS QUALIFIED FOR NUCLEAR WORK.
MANUFACTURED UNDER NCA-3800 PROGRAM.

ALL RINGS MARKED ON INSIDE DIAMETER, SIZE, SCH,
HEAT NO., MAT'L SPEC., ROB™

RING TYPES



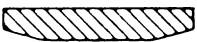
TYPE CCC - designed for quick easy joint alignment where the variation in inside diameters is relatively great. Chamfered NUBS allow close tolerance fit-up and **Clean Strike Off**.



TYPE CC - designed primarily for automatic welding and to allow quick easy joint alignment where the inside diameters are slightly out-of-round. NUBS can be chipped off or left intact to be melted into first root pass.



TYPE C - NUBS are punched from the ring material to one-half cross-sectional thickness and are not removable.



TYPE PLAIN - designed to manually sett root gap.

Material Specifications**:

Commercial Split Types - CCC, CC, C or PLAIN

Carbon Steel ASTM A-109 Temper 4
Chrome Moly ASTM A-182/ASME SA-182
Stainless ASTM A-240/ASME SA-240
Aluminum ASTM A-240/ASME SB-221

- 5083 and 5086 Aluminum cross-section dimensions are: 1/8" x 5/8" and 1/8" x 1"

**** ALL OTHER WELDABLE MATERIALS AVAILABLE UPON INQUIRY; EG. SPECIAL GRADES OF CHROME MOLY, STAINLESS STEEL, NICKEL, AND CUPRO NICKEL, ETC.**

ORDERING INFORMATION:

SPECIFY

QUANTITY
NPS & SCHEDULE or TUBING O.D. & WALL
BACKING RING TYPE - PLAIN, C, CC, or CCC
MATERIAL & GRADE

*RINGS MANUFACTURED TO ALL PIPE SCHEDULES, TUBING WALLS, AND METRIC SIZES

Nom. Pipe Size or Tube O.D.	Pipe Schedule or Wall Thickness	No. of Root Opening Spacers		Dia. of NUBS	Ring Thickness	Ring Width	Dia. of Land	Ring Weight LBS.
		Type C	Type CC & CCC					
1"		3	3	1/8"	3/32"	5/8"	3/8"	.052
1 1/4"		3	3	1/8"	3/32"	5/8"	3/8"	.069
1 1/2"		3	3	1/8"	3/32"	5/8"	3/8"	.078
2"	A	3	3	3/16"	3/32"	5/8"	3/8"	.109
2 1/2"	D	3	3	3/16"	3/32"	5/8"	3/8"	.129
3"	V	3	3	3/16"	3/32"	5/8"	3/8"	.157
3 1/2"	I	3	3	3/16"	3/32"	5/8"	3/8"	.180
4"	S	4	3	3/16"	3/32"	5/8"	3/8"	.203
5"	E	5	4	3/16"	1/8"	1"	5/8"	.520
6"		5	4	3/16"	1/8"	1"	5/8"	.625
8"	W	6	4	3/16"	1/8"	1"	5/8"	.828
10"	H	9	4	3/16"	1/8"	1"	5/8"	1.068
12"	E	9	5	3/16"	1/8"	1"	5/8"	1.269
14"	N	9	5	3/16"	1/8"	1"	5/8"	1.403
16"		12	5	3/16"	1/8"	1"	5/8"	1.616
18"	O	12	6	3/16"	1/8"	1"	5/8"	1.830
20"	R	12	6	3/16"	1/8"	1"	5/8"	2.043
22"	D	12	6	3/16"	1/8"	1"	5/8"	2.257
24"	E	15	6	3/16"	1/8"	1"	5/8"	2.471
26"	R	15	6	3/16"	1/8"	1"	5/8"	2.684
28"	I	15	6	3/16"	1/8"	1"	5/8"	2.898
30"	N	18	6	3/16"	1/8"	1"	5/8"	3.112
32"	G	18	6	3/16"	1/8"	1"	5/8"	3.325
34"		18	6	3/16"	1/8"	1"	5/8"	3.539
36"		21	6	3/16"	1/8"	1"	5/8"	3.752

38" & LARGER AVAILABLE ON REQUEST