

Contents

1	Scope	2
2	Normative references	2
3	Additional requirements	2
4	Backing rings	3
4.1	Backing rings for Al-pipes DN 15 to DN 100	3
4.2	Backing rings for Al-pipes \geq DN 150	4

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Dimensions in mm

1 Scope

This Linde Standard (LS) applies for backing rings for welding of pipes of aluminium and aluminium-alloys.

2 Normative references

This LS contains undated references to incorporate provisions of other publications. The normative references are cited at the respective place in the text and the publications are listed below. Issues valid at the effective date of contract shall apply.

ISO 9445	Continuously cold-rolled stainless steel narrow strip, wide strip, plate/sheet and cut lengths - Tolerances on dimensions and form
ISO 2768-1	General tolerances; tolerances for linear and angular dimensions without individual tolerance indications
LS 411-09	Aluminium pipes, Dimensions and materials
LS 463-13	Special Profiles from Aluminium

3 Additional requirements

Dimensions without tolerance indication according to general tolerances ISO 2768 – c.

4 Backing rings

4.1 Backing rings for Al-pipes DN 15 to DN 100

4.1.1 Designation

Designation: Part name, nominal diameter, pipe outside diameter, pipe wall thickness, standard, material

4.1.2 Material

Austenitic CrNi-Steel

4.1.3 Design

Manufactured from pipe, strip or a turned part. When using a strip the weld shall be welded with full penetration (X-ray proven) and ground. In this case the borehole shall be located in the centre of the welding seam.

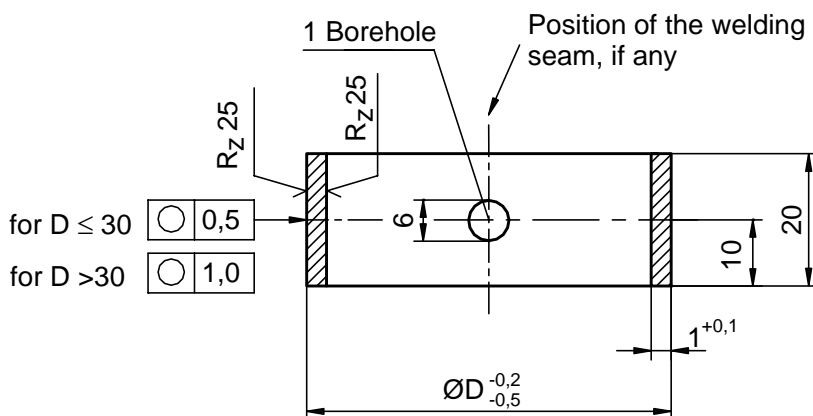


Figure 1: Backing ring DN 15 to DN 100

Table 1: Dimensions and weights of backing rings DN 15 to DN 100

Pipe		Dimensions	Weight
DN	da * s	D	[kg]
15	21 * 2	17	0,008
25	34 * 2	30	0,015
40	48 * 3	42	0,021
50	60 * 3,5	53	0,026
80	89 * 4	81	0,040
100	114 * 3	108	0,053
100	114 * 6	102	0,050

4.2 Backing rings for Al-pipes \geq DN 150

4.2.1 Designation

Designation: Part name, nominal diameter, thickness of backing, standard, material

4.2.2 Material

Al-profile ring: Flat profile type A according to LS 463-13

CrNiSt-ring: Steel strip insert of austenitic CrNi-Steel

4.2.3 Design

The backing ring consists of a profile ring and an insert. The profile ring shall be made of flat profile type A according to LS 463-13 and the insert made of cold rolled strip according to ISO 9445.

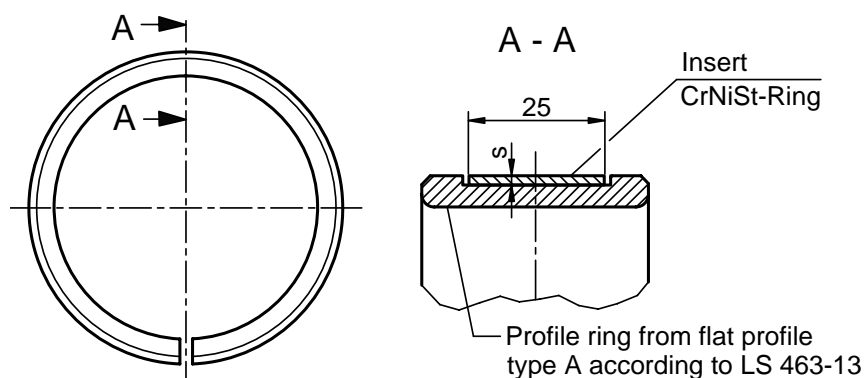


Figure 2: Backing ring \geq DN 150

Table 2: Dimensions and weights of backing rings \geq DN 150

DN	Pipe Wall thickness ¹⁾	Profile ring Straight length	s	Insert Straight length	Weight [kg]
150	3	496	1	506	0,28
	8	465	1,5	473	0,29
200	3	657	1	666	0,35
	≥ 8	625	1,5	633	0,39
250	4	820		828	0,43
	≥ 8	795		803	0,50
300	4	980		988	0,52
	≥ 10	942		950	0,59
350	4	1077		1085	0,56
	≥ 8	1052		1060	0,65
400	4	1238		1246	0,65
	≥ 8	1212		1220	0,76
500	4	1558		1566	0,82
	≥ 10	1520		1528	0,95
600	≥ 5	1872		1880	1,17
700	≥ 6	2183		2191	1,36
800	≥ 6	2504		2512	1,56
900	≥ 6	2821		2829	1,76
1000	≥ 6	3129		3137	1,95
1100	≥ 8	3448		3456	2,13
1200	≥ 10	3757		3765	2,34
1400	≥ 10	4386		4394	2,74
1600	≥ 12	5001		5009	3,12

¹⁾ For information only: Wall thicknesses according to LS 411-09