



# ORIGINAL LINK-SEAL® MODULAR SEAL

EASY AND QUICK INSTALLATION  
THANKS TO PRE-ASSEMBLED  
MODULE DESIGN

POTABLE WATER, OIL,  
FUEL, SOLVENTS, AND HIGH  
TEMPERATURE-RESISTANT  
VERSIONS AVAILABLE

PROTECTED POSITION  
IN THE MASONRY



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## GENERAL INFORMATION

### Fields of Application

LINK-SEAL® Modular Seals are designed for a wide range of applications. LINK-SEAL® Modular Seals can be used wherever annular spaces need to be reliably sealed. Main fields of application:

- Wall penetrations
- Tank embeddings
- Casing pipe seals

### Advantages

- High quality rubber parts ensure longest lifetime
- Potable water, oil, fuel, solvents, and high temperature-resistant versions available upon request
- Protected position in the masonry
- Perfect even for retrofitting
- Easy and quick installation thanks to pre-assembled modules
- Choice of zinc-plated or S316 (V4A) stainless steel bolts
- Different colors for different rubber qualities
- Electrically isolating
- Hydrostatic sealing against pressing water
- Original product with longest lifetime experience on the market

### The Principle

The radial expansion of the rubber ensures a permanently pressure tight and secure sealing of the annular space.

For very thin-walled plastic pipes e.g. pre-insulated, flexible and corrugated pipe systems, a PSI Kompakt seal type FW is recommended.

### Recommendation

The inside of the core drilling should be coated in order to protect the reinforcement. Therefore we recommend using core hole sealing respectively epoxy resin (see p. 47-49).



More content can be found on  
[www.psi-products.com](http://www.psi-products.com)

## TECHNICAL DATA

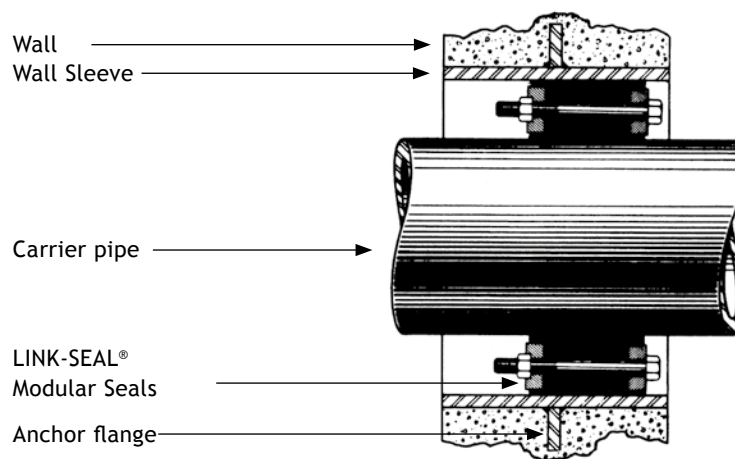
### Material Properties

<b>Temperature resistance</b>	Standard version black Type T, grey Type O, green* KTW/W270**	from -40 °C up to +80 °C from -55 °C up to +204 °C from -40 °C up to +70 °C from -40 °C up to +80 °C
<b>Oil, fuel and solvent resistant</b>	Type O (not UV-resistant)	
<b>Especially for plastic pipes</b>	blue Version	Shore A 40 ± 5
<b>Pressure tight</b>	up to 5 bar (TÜV, Lloyd's Register) Original LINK-SEAL® up to 3 bar (Lloyd's Register) Original LINK-SEAL®, Type BC und BS316	
<b>Electrical insulation</b>	Dielectric strength 500 V/mm	

\* LS 440 and LS 650 Nitrile rubber black with green marking. The values specified for the pressure tightness are valid at 23 °C. For different, in particular higher permanent operating temperatures, it might be necessary to fit an ejection safety device.

\*\* The KTW/W270 version is used whenever the seal comes into contact with potable water.

### Sectional drawing of a wall penetration sealed with LINK-SEAL® Modular Seals ring seal



### Wall Sleeves

PSI offers wall sleeves in asbestos free fiber cement, PVC, galvanized steel or S304 (V2A) with an inner diameter of 50 mm up to 2350 mm.



## TECHNICAL DATA

Type	Version	Sealing element	Pressure plates	Nuts and Bolts	Temperature range	Application
C	Standard	EPDM rubber black	fiber reinforced polyamide	strength class 8.8 galvanized	-40 °C up to +80 °C	General application in a normal atmosphere, water, or a humid environment. Suitable for electrical isolation and cathodic corrosion protection.
S 316	Standard stainless steel	EPDM rubber black	fiber reinforced polyamide	Material A 4-70 stainless steel	-40 °C up to +80 °C	High level of water-resistance, resistant against most inorganic substances (acids and alkalis) and most organic substances (acetic acid and acetone)
BC	Shore 40 ± 5	EPDM rubber blue	fiber reinforced polyamide	strength class 8.8 galvanized	-40 °C up to +80 °C	See type "C", but particular for plastic pipes
BS 316	Shore 40 ± 5	EPDM rubber blue	fiber reinforced polyamide	Material A 4-70 stainless steel	-40 °C up to +80 °C	See type "S 316", but particular for plastic pipes
O*	Oil resistant	Nitrile rubber green	fiber reinforced polyamide	strength class 8.8 galvanized	-40 °C up to +70 °C	Good resistance against oils, aromatic fuels, solvents and other mineral oil based products
OS 316*	Oil resistant	Nitrile rubber green	fiber reinforced polyamide	Material A 4-70 stainless steel	-40 °C up to +70 °C	Good resistance against oils, aromatic fuels, solvents and other mineral oil based products
KTW/ W270**	Shore 50 ± 5	EPDM rubber black, with a KTW stamp	fiber reinforced polyamide natural color	Material A 4-70 stainless steel	-40 °C up to +80 °C	Suitable for applications in potable water
T***	High and low temperature resistant	Silicon rubber grey	St 37 galvanized	strength class 8.8 galvanized	-55 °C up to +204 °C	No isolating properties, especially suitable for extreme temperatures

\* LS 440 and LS 650 black nitrile rubber with green markings

\*\* Elastomer tested in accordance with KTW and W270

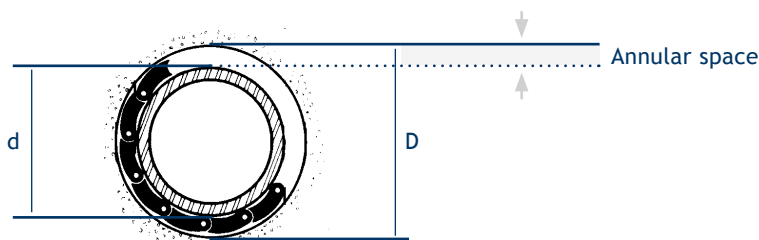
\*\*\* available upon request



## TYPE SELECTION

### 01. Which type?

The suitable LINK-SEAL® for the application results from the thickness of the annular space between casing pipe (wall sleeve/core drilling) and media pipe. The perfect LINK-SEAL® is smaller than the annular space in a non-tensioned condition and larger in tensioned condition. The annular space is calculated as follows:



<b>Casing pipe inside (D)</b>	-	<b>Carrier pipe outside (d)</b>	=		<b>Annular space</b>
2					

The calculated value must lie between the values in the table for “non-tensioned condition” and “tensioned condition”. Simply enter the calculated value in the right place in the “annular space thickness“ column and determine the right type.

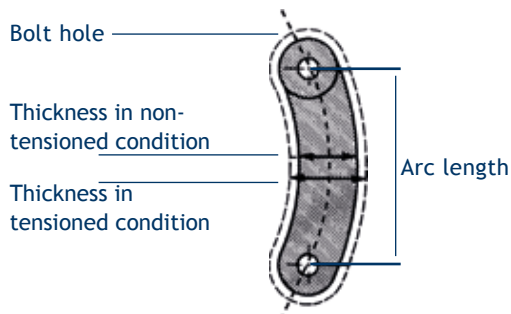
Type	Thickness without tension	Annular space is	Thickness with tension	Required wall thickness
LS 200	12.7 mm		15.7 mm	75 mm
LS 265	16.0 mm		20.0 mm	75 mm
LS 275	16.0 mm		20.0 mm	75 mm
LS 300	18.0 mm		22.5 mm	100 mm
LS 310	18.0 mm		22.5 mm	100 mm
LS 315	21.1 mm		26.0 mm	100 mm
LS 325	23.2 mm		30.0 mm	120 mm
LS 340	25.5 mm		34.0 mm	120 mm
LS 360	32.0 mm		42.0 mm	120 mm
LS 400	36.3 mm		46.0 mm	140 mm
LS 410	37.0 mm		48.5 mm	140 mm
LS 425	28.4 mm		37.0 mm	140 mm
LS 440	44.0 mm		55.0 mm	140 mm
LS 475	41.3 mm		48.5 mm	140 mm
LS 500	60.3 mm		71.5 mm	150 mm
LS 525	55.4 mm		63.5 mm	150 mm
LS 575	48.0 mm		58.0 mm	150 mm
LS 615 <sup>3</sup>	81.6 mm		98.0 mm	150 mm
LS 625	83.0 mm		98.0 mm	150 mm
LS 650	69.0 mm		84.0 mm	150 mm
LS 700	95.0 mm		110.0 mm	200 mm

<sup>3</sup> The LS 615 is not suitable for PE pipes!

## TYPE SELECTION

### 02. How many elements?

After the type definition the required number of elements needs to be calculated. Determine the bolt circle by using the formula below and divide the value by the arc length of the chosen type (see table). The result, rounded up or down, shows the required number of elements.



$$\frac{\text{Casing pipe inside (D)} + \text{Carrier pipe outside (d)}}{2} \times 3.14 = \frac{\text{Bolt hole}}{\text{Arc length}} = \text{Number}$$

Type	Arc length	Outer diameter of Pipe	Outer diameter of Pipe	Minimum no. of Segments
LS 200	30.0 mm	from 21.3 mm	to 323.9 mm <sup>(1)</sup>	4
LS 265	41.0 mm	from 50.0 mm	to 406.4 mm <sup>(1)</sup>	5
LS 275	25.6 mm	from 0.0 mm	to 90.0 mm	4
LS 300	41.0 mm	from 44.5 mm	to 250.0 mm	5
LS 310	57.5 mm	from 60.3 mm	to 406.4 mm <sup>(2)</sup>	5
LS 315	38.4 mm	from 37.0 mm	to 315.0 mm	5
LS 325	79.8 mm	from 133.0 mm	to 711.0 mm	6
LS 340	41.4 mm	from 30.0 mm	to 323.9 mm	4
LS 360	55.1 mm	from 40.0 mm	to 406.4 mm	5
LS 400	93.1 mm	from 139.7 mm	to 1220.0 mm	6
LS 410	67.6 mm	from 60.3 mm	to 323.9 mm	5
LS 425	93.1 mm	from 144.0 mm	to 1220.0 mm	6
LS 440	99.0 mm	from 139.7 mm	to 1220.0 mm	6
LS 475	68.6 mm	from 60.3 mm	to 1220.0 mm	5
LS 500	99.8 mm	from 100.0 mm	to 1220.0 mm	5
LS 525	99.8 mm	from 133.0 mm	to 1220.0 mm	6
LS 575	79.5 mm	from 130.0 mm	to 1220.0 mm	5
LS 615 <sup>(3)</sup>	155.5 mm	from 219.0 mm	to 3000.0 mm	6
LS 625	106.7 mm	from 160.0 mm	to 2000.0 mm	7
LS 650	106.7 mm	from 160.0 mm	to 2000.0 mm	7
LS 700	155.5 mm	from 219.6 mm	to 3000.0 mm	6

**IMPORTANT:**

(1) From an outer diameter of DA 150 we recommend to enlarge the borehole to be able to use at least LINK-SEAL® Type LS 310.

(2) From an outer diameter of DA 300 we recommend to enlarge the borehole to be able to use at least LINK-SEAL® Type LS 325.

(3) The LS 615 is not suitable for PE pipes.



### SELECTION FOR CORE DRILLED HOLES

Core hole in mm	Carrier pipe outer diameter in mm from - to		Selected seal	
			Quantity of elements	Type LS
50	10	18	4	275
80	40	48	8	275
	48	53	7	200
100	32	45	5	340
	48	57	6	315
	55	64	6	300
	62	68	6	265
	68	75	9	200
125	42	61	5	360
	58	74	7	340
	73	82	8	315
	80	89	8	300
	87	93	8	265
150	95	100	12	200
	53	67	5	475
	58	76	5	410
	66	82	6	360
	82	99	9	340
200	105	114	7	310
	112	118	10	265
	118	125	14	200
	103	117	7	475
	103	124	7	410
250	116	133	9	360
	132	149	13	340
	155	164	10	310
	134	154	8	575
300	140	160	6	440
	153	163	9	475
	158	177	7	400
	166	186	12	360
	178	192	7	425
	190	203	9	325
	157	173	7	500
	184	204	10	575
350	190	210	8	440
	208	226	12	410
	216	236	15	360
	234	244	20	340
	240	253	11	325
	255	264	15	310
	182	210	8	650
400	207	229	9	500
	223	239	9	525
	234	254	12	575
	253	267	14	475
	253	274	14	410
	266	286	18	360
	276	293	11	425
	286	296	24	340
	294	303	13	325
	307	314	18	310

Core hole in mm	Carrier pipe outer diameter in mm from - to		Selected seal	
			Quantity of elements	Type LS
400	204	234	9	625
	234	255	9	650
	264	279	10	500
	273	289	11	525
	284	304	14	575
	292	310	11	440
	303	317	16	475
	308	327	12	400
	326	341	12	425
	340	353	15	325
450	235	256	7	700
	254	265	10	625
	266	286	7	615
	285	311	11	650
	307	329	12	500
	327	339	12	525
	335	354	16	575
	345	356	13	440
	355	367	19	475
	358	377	14	400
500	376	393	14	425
	375	386	24	360
	390	403	17	325
	285	306	8	700
	304	334	12	625
	335	359	12	650
	357	379	14	500
	373	389	14	525
	385	400	18	575
	390	410	14	440
600	408	427	15	400
	426	443	16	425
	440	453	19	325
	385	406	10	700
	404	434	15	625
	436	457	15	650
	457	479	17	500
	473	489	17	525
	490	503	17	440
	503	509	25	475
650	508	527	19	400
	526	543	19	425
	540	553	23	325

All other sizes on request.

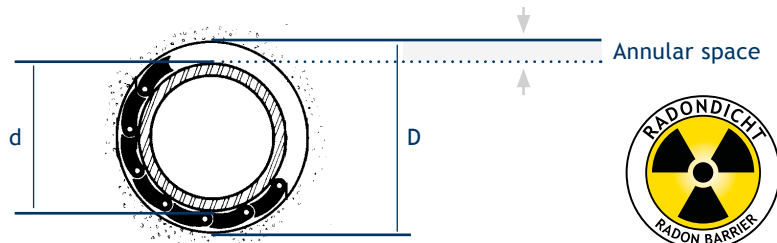
Available in these versions:

- Type C: Rubber EPDM (black standard), bolts/nuts galvanized
- Type BC: Rubber EPDM (blue, extra soft for plastic pipe), bolts/nuts galvanized
- Type S316: Rubber EPDM (black), bolts/nuts stainless steel
- Type B5316: Rubber EPDM (blue, extra soft for plastic pipe), bolts/nuts stainless steel
- Type O: Rubber Nitril (green, oil resistant), bolts/nuts galvanized
- Type OS316: Rubber Nitril (green, oil resistant), bolts/nuts stainless steel

## TYPE SELECTION

### 01. Which Type?

The LINK-SEAL® ring seal suitable for the application depends on the annular distance between the casing pipe (wall sleeve) and carrier pipe. The optimal type is smaller than the annular space when in free state, and larger when in expanded state. The annular space is calculated from:



<b>Casing pipe inside (D)</b>	<b>Carrier pipe outside (d)</b>		
<input style="width: 100%;" type="text"/>	-	<input style="width: 100%;" type="text"/>	= <input style="width: 100%;" type="text"/> <b>Annular space</b>
<hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/>		2	

The calculated value must lie between the values in the table for „thickness in free state“ and „thickness expanded“. Simply enter the calculated value in the right place in the „annular space thickness“ column and determine the type.

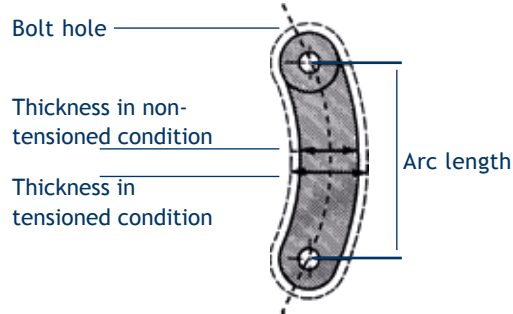
Type	Thickness without tension	Annular space is	Thickness with tension	Required wall thickness
LS 200	12.7 mm		15.7 mm	75 mm
LS 275	16.0 mm		20.0 mm	75 mm
LS 300	17.5 mm		22.5 mm	100 mm
LS 315	20.5 mm		26.0 mm	100 mm
LS 325	24.0 mm		30.0 mm	120 mm
LS 340	24.5 mm		34.0 mm	120 mm
LS 360	31.5 mm		42.0 mm	120 mm
LS 400	35.5 mm		46.0 mm	140 mm
LS 410	36.5 mm		48.5 mm	140 mm
LS 425	28.6 mm		37.0 mm	140 mm
LS 440	44.0 mm		55.0 mm	140 mm
LS 475	41.3 mm		48.5 mm	140 mm
LS 500	61.0 mm		71.5 mm	150 mm
LS 525	53.0 mm		63.5 mm	150 mm
LS 575	48.0 mm		58.0 mm	150 mm
LS 625	83.0 mm		98.0 mm	150 mm
LS 650	69.0 mm		84.0 mm	150 mm



## TYPE SELECTION

### 02. How many elements?

After the type definition the required number of elements needs to be calculated. Determine the bolt circle by using the formula below and divide the value by the arc length of the chosen type (see table). The result, rounded up or down, shows the required number of elements.



$$\frac{\text{Casing pipe inside (D)} + \text{Carrier pipe outside (d)}}{2} \times 3.14 = \frac{\text{Bolt hole}}{\text{Arc length}} = \text{Number}$$

Type	Arc length	Outer diameter of Pipe	Outer diameter of Pipe	Minimum no. of Segments
LS 200	30.5 mm	from 21.3 mm	up to 323.9 mm <sup>(1)</sup>	4
LS 275	25.0 mm	from 0.0 mm	up to 90.0 mm	4
LS 300	40.5 mm	from 44.5 mm	up to 406.4 mm <sup>(2)</sup>	5
LS 315	38.4 mm	from 37.0 mm	up to 315.0 mm	5
LS 325	79.0 mm	from 133.0 mm	up to 711.0 mm	6
LS 340	42.0 mm	from 30.0 mm	up to 323.9 mm	4
LS 360	55.5 mm	from 40.0 mm	up to 406.4 mm	5
LS 400	93.0 mm	from 139.7 mm	up to 1220.0 mm	6
LS 410	68.0 mm	from 60.3 mm	up to 323.9 mm	4
LS 425	93.0 mm	from 144.0 mm	up to 1220.0 mm	6
LS 440	99.0 mm	from 139.7 mm	up to 1220.0 mm	6
LS 475	68.0 mm	from 60.3 mm	up to 1220.0 mm	5
LS 500	99.0 mm	from 100.0 mm	up to 1220.0 mm	5
LS 525	99.0 mm	from 133.0 mm	up to 1220.0 mm	6
LS 575	79.0 mm	from 160.0 mm	up to 1220.0 mm	5
LS 625	106.7 mm	from 133.0 mm	up to 2000.0 mm	5
LS 650	106.7 mm	from 160.0 mm	up to 2000.0 mm	7

<sup>(1)</sup> From an outer diameter of OD 150 we recommend to enlarge the borehole to be able to use at least LINK-SEAL® Type LS 310.

<sup>(2)</sup> From an outer diameter of OD 300 we recommend to enlarge the borehole to be able to use at least LINK-SEAL® Type LS 325.

## TYPE KTW/W270 POTABLE WATER FOR CORE DRILLED HOLES

Core hole in mm	Carrier pipe outer diameter in mm from - to		Selected seal	
			Quantity of elements	Type LS
50	10	18	4	275
80	40	48	8	275
	48	53	7	200
100	32	45	5	340
	48	57	6	315
	55	64	6	300
	62	68	10	275
	68	75	9	200
125	42	61	5	360
	58	74	7	340
	73	82	8	315
	80	89	8	300
150	87	90	13	275
	95	100	12	200
	53	67	5	475
	58	76	5	410
	66	82	6	360
200	82	99	9	340
	105	114	10	300
	118	125	14	200
	90	104	6	575
250	103	117	7	475
	103	124	7	410
	116	133	9	360
	132	149	13	340
	155	164	14	300
300	134	154	8	575
	140	160	6	440
	153	163	9	475
	158	177	7	400
	166	186	12	360
	178	192	7	425
350	190	203	9	325
	206	212	18	300
	157	173	7	500
	184	204	10	575
	190	210	8	440
	208	226	12	410
	216	236	15	360
400	234	244	20	340
	240	253	11	325
	182	210	8	650
	207	229	9	500
	223	239	9	525
	234	254	12	575
	253	267	14	475
	253	274	14	410
	266	286	18	360
	258	274	10	400
	276	292	11	425
450	286	296	24	340
	294	303	13	325

Core hole in mm	Carrier pipe outer diameter in mm from - to		Selected seal	
			Quantity of elements	Type LS
400	204	234	9	625
	234	255	9	650
	264	279	10	500
	273	289	11	525
	284	304	14	575
	292	310	11	440
	303	317	16	475
	308	327	12	400
	326	341	12	425
450	340	353	15	325
	254	265	10	625
	285	311	11	650
	307	329	12	500
	327	339	12	525
	335	354	16	575
	345	356	13	440
	355	367	19	475
	358	377	14	400
	376	392	14	425
500	375	386	24	360
	390	403	17	325
	304	334	12	625
	335	359	12	650
	357	379	14	500
	373	389	14	525
	385	400	18	575
	390	410	14	440
600	408	427	15	400
	426	442	16	425
	440	453	19	325
	404	434	15	625
	436	457	15	650
	457	479	17	500
	473	489	17	525
	490	503	17	440
650	503	509	25	475
	508	527	19	400
	526	542	19	425
	540	553	23	325

All other sizes on request.

Available as Type KTW/W270\*:  
 Rubber EPDM (black with blue label „KTW/W270“, nature pressure plate),  
 bolts/nuts stainless steel, KTW/W270 = Components acc. German Drinking Water Recommendation  
 Certified elastomer acc. KTW and W270

# PSI CRAFTSMAN SET

PRE-ASSEMBLED -  
LINK-SEAL® RINGS IN BOXES

EASY STORAGE

SUITABLE FOR  
RETROFITTING  
PRESSURE-TIGHT  
UP TO 5 BAR



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## GENERAL INFORMATION

Pre-assembled LINK-SEAL® rings for most common dimensions.

Blue soft rubber LINK-SEAL® are shipped inside a box suitable for all pipe types. For especially thin-walled plastic pipes like flexible casing and corrugated pipe systems, we recommend using Kompakt type FW.

- High quality EPDM rubber
- Galvanized or stainless steel bolts
- Suitable for retrofitting
- Special sizes available at short notice
- Minimum annular space 13 mm
- Against pressing water
- Oil resistant rubber on request



Core hole (mm)	Carrier pipe	
	from	to
50	10	18
50	18	25
80	22	27
80	40	48
100	32	43
100	48	57
100	55	64
125	42	61
125	57	72
125	80	89
150	53	76
150	66	78
150	82	99
150	105	115
200	103	117
200	116	133
200	132	149
200	148	157
200	156	164
250	106	129
250	130	154
250	153	163
250	158	177
250	176	193
300	184	204
300	203	217
300	216	236
350	207	229
350	230	254
350	253	274
350	266	286



More content can be found on [www.psi-products.com](http://www.psi-products.com)



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