



Wear sleeves

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Wear sleeves

General

To seal efficiently, radial shaft seals must run against a smooth, round counterface. If the counterface becomes worn, the seals will no longer be able to fulfil their function, which is to retain lubricant and exclude contaminants.

Typically, the counterface becomes scored when a contaminant particle is caught under the sealing lip and abrades a track as the shaft rotates. As this continues, the seal will enable more particles to pass or get stuck, and seal efficiency deteriorates, eventually leading to malfunction of the component that the seal is meant to protect. To rectify the situation, it is necessary to repair the shaft surface since a seal replacement will not be sufficient. To repair the shaft, it is usually necessary to disassemble the machine in order to either replace the shaft or grind down the counterface until it is again within specification.

SKF Speedi-Sleeve (→ **fig. 1**) is a well-proven solution to overcome problems with worn

shafts without having to disassemble the shaft or changing the seal dimensions, while offering an excellent sealing surface. Now, SKF has developed a patent pending new generation SKF Speedi-Sleeve with features providing an even further enhanced sealing system performance. Using SKF Speedi-Sleeve, combined with an SKF radial shaft seal, customers will benefit from a more consistent and increased durability of the sealing system. This will enable a more stable maintenance planning with improved predictability of the system service life. SKF Speedi-Sleeve is available for shaft diameters up to approximately 203 mm (8 in.). For larger shaft diameters, SKF offers wear sleeves for heavy industrial applications, LDSLV3 and LDSLV4 (→ **figs. 2 and 3**). See **page 356** for information regarding LDSLV designs.

Fig. 1

SKF Speedi-Sleeve

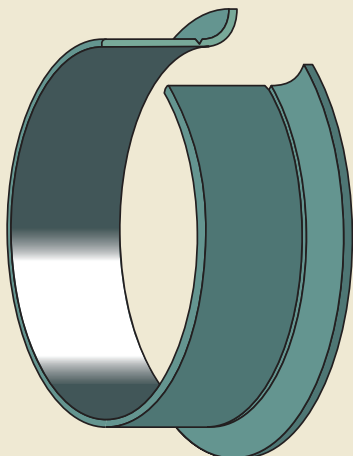
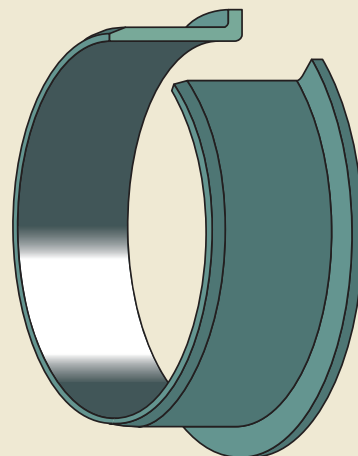


Fig. 2

LDSLV3 wear sleeve



SKF Speedi-Sleeve

This thin-walled sleeve (0,28 mm (0.011 in.)), developed by SKF, is simply pushed in position over the worn area, providing a counterface surface that is optimized for radial shaft seals.

There is no shaft disassembly or machining involved and costly downtime is minimized. Since the same sized seal as the original can be used, there is no need to search for other seals, or keep a stock of different sizes.

No special equipment is required since the installation tool is supplied with the sleeve. A mallet and a pair of pliers are all that is needed for the installation.

Features

The new generation SKF Speedi-Sleeve uses a proprietary stainless steel material and manufacturing process, resulting in an optimized seal counterface surface that minimizes wear on both sleeve and sealing lip. The proprietary material provides increased strength and excellent ductility properties of the sleeve. Imperceptible lubricant pockets enable the lubricant to reside on the sleeve and thereby prevent dry running of the sealing lip that otherwise can create excessive wear. The contact surface is wear resistant and machined to minimize directionality ($0^\circ \pm 0,05$) with a finish of R_a 0,25 to $0,5 \mu\text{m}$ (10 to 20 $\mu\text{in.}$). This is, in fact, a better counterface surface than can often be achieved on a shaft.

SKF Speedi-Sleeve has a removable flange to simplify installation ($\rightarrow$ fig. 4). The flange can

most often be left intact, but in applications where the flange will interfere with other system components, it should be removed so as not to cause friction heat and wear debris. The flange should also be removed in applications where it may reduce the supply of lubricant to the seal. This would reduce the cooling effect of the lubricant, resulting in elevated underlip temperatures and premature ageing of the seal material.

If the flange is to be removed, it should be cut from the outside diameter into the radius in one location prior to installation. The flange can then be twisted and raised up after installation and grasped with a pair of long-nosed pliers and twisted into a coil.

Size range

The standard size range covers sleeves for shaft diameters from 11,99 to 203,33 mm (0.472 to 8 in.). Depending on production quantities, non-standard sizes can be manufactured. Each sleeve is designed to fit a specific shaft diameter range, usually above and below the nominal shaft diameter. This permits some flexibility to accommodate variations in the actual shaft diameter.

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Fig. 3

LDSSLV4 wear sleeve

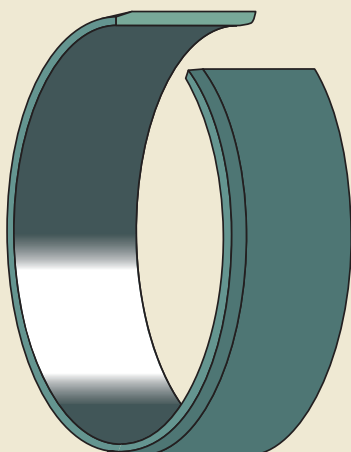
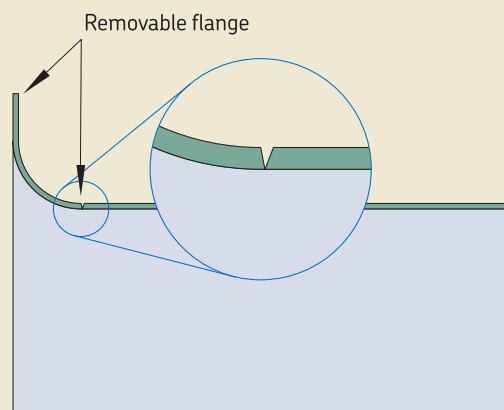


Fig. 4

SKF Speedi-Sleeve removable flange



SKF Speedi-Sleeve Gold

The new generation of SKF Speedi-Sleeve is also available in the Gold version, designed for highly abrasive applications. A thin, metallic coating applied to the base stainless steel imparts a gold colour and significantly increases durability. The original seal size can still be used. SKF Speedi-Sleeve Gold is particularly effective in environments where there are abrasive contaminants, especially when combined with a seal manufactured from the SKF fluoro rubber material, SKF Duralife.

Test results

The previous and new generation of SKF Speedi-Sleeve products were tested for abrasion resistance under both coarse and fine dust conditions. A 500 hour contamination test (→ **diagram 1**) showed that when compared to the previous generation sleeve, the new generation SKF Speedi-Sleeve reduced abrasion by a factor of 1,5 and was still operating efficiently.

To test sealing system effectiveness, a 2 000 hour life test was performed (→ **diagram 2**) using SKF Speedi-Sleeve new and previous generation products and SKF Wave seals made from the SKF fluoro rubber material SKF Duralife. The test results showed that SKF Speedi-Sleeve new generation reduced the sealing lip wear and the variation in the wear rate by approximately 30% compared to the previous generation sleeve and outperformed a chromium-plated surface by a factor of 2. This reduction improves the sealing system reliability as well as the predictability of the system service life.

Both tests were carried out under the same operating conditions:

- temperatures up to 110 °C (225 °F)
- linear shaft speeds of up to 8,6 m/s (1 700 ft/min)

In other tests, it was found that continuous salt spray at 35 °C (95 °F) produced no trace of corrosion even after 600 hours. This optimized performance is made possible through the use of the new generation of SKF Speedi-Sleeve.

Diagram 1

SKF Speedi-Sleeve wear test

Abrasive media, test stopped at 500 hours

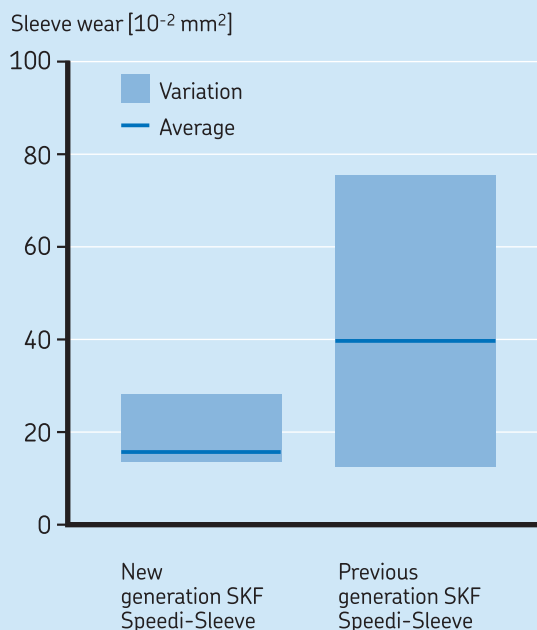
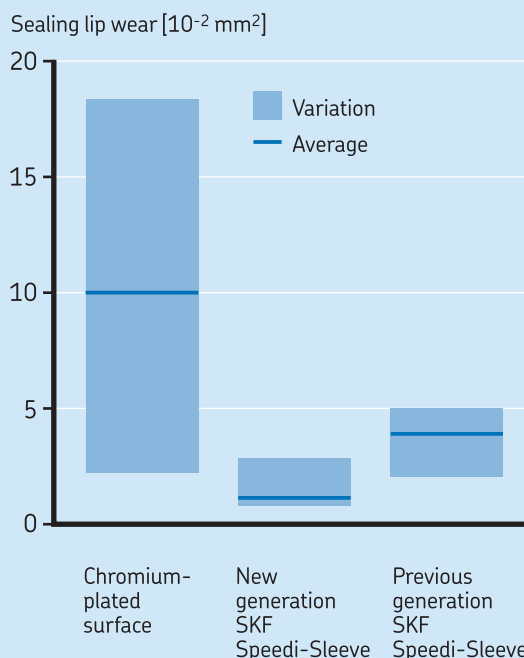


Diagram 2

Sealing lip wear test

Seals made from fluoro rubber, test stopped at 2 000 hours



Selecting the right size

To determine the appropriate sleeve size, it is first necessary to clean the shaft carefully. The diameter of an undamaged section of the seal counterface should then be measured on at least three different planes. The arithmetical mean of these measurements determines the size of SKF Speedi-Sleeve. If the value lies within the permissible range listed in the product table for the shaft diameter d_1 , SKF Speedi-Sleeve will have an adequate tight fit on the shaft and will not require an adhesive.

If no suitable size is listed in the product table, it will be necessary to rework the shaft to an appropriate dimension. This also means that a new seal size will be required. If production quantities are sufficient enough, SKF can provide specially dimensioned SKF Speedi-Sleeve or other wear sleeve solution.

Installing SKF Speedi-Sleeve

All SKF Speedi-Sleeve designs are installed the same way. Although installation is simple, it should be done carefully to achieve the best results. As the thin-walled sleeve has an interference fit, any disturbances on the shaft surface may create a similar pattern on the sleeve surface and cause the seal to leak. Therefore, the seal counterface surface of the shaft should be carefully cleaned and any burrs or rough spots filed down prior to installation. Deep wear grooves, scratches or very rough surfaces should be treated with a suitable powdered metal epoxy-type filler. The sleeve must be positioned on the shaft before the filler has hardened.

SKF Speedi-Sleeve must not be installed over keyways, cross holes, splines or threads since this will result in deformation of the sleeve, making it difficult for the seal to follow its new counterface surface as it rotates.

SKF Speedi-Sleeve should never be heated prior to installation. Using heat will cause the sleeve to expand, but when it cools, it may not contract back to its original size, resulting in a loose fit on the shaft.

See **fig. 5** for different SKF Speedi-Sleeve installations.

SKF Speedi-Sleeve installations

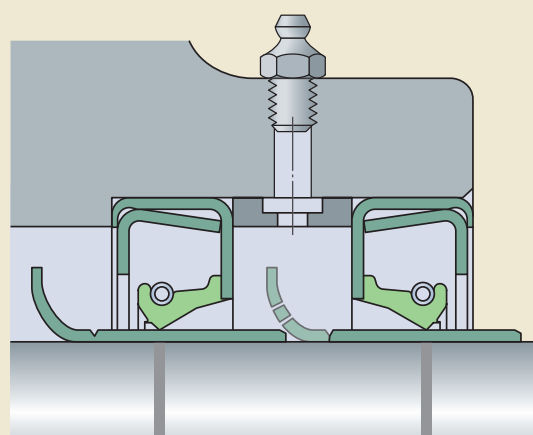
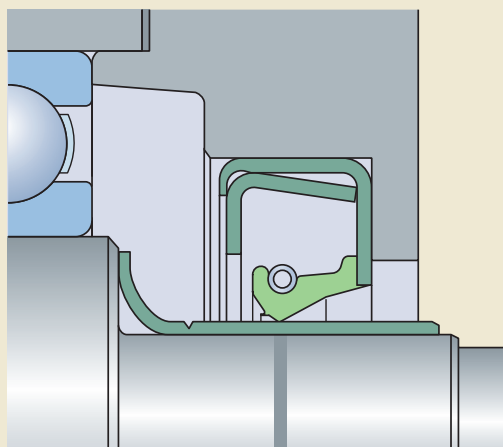


Fig. 6

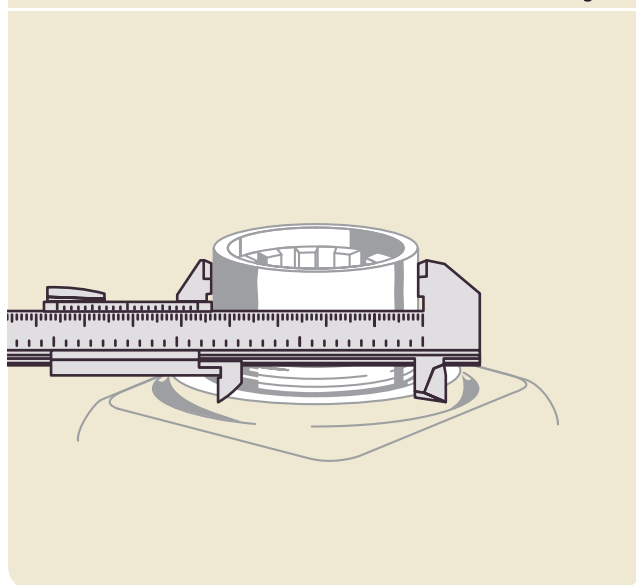


Fig. 7

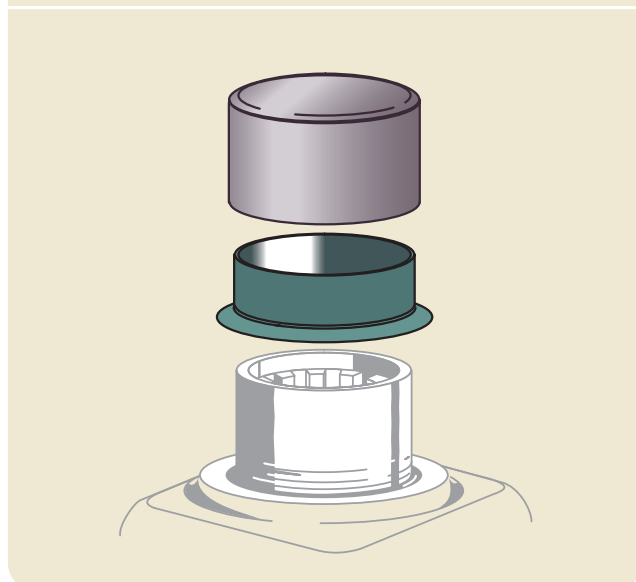
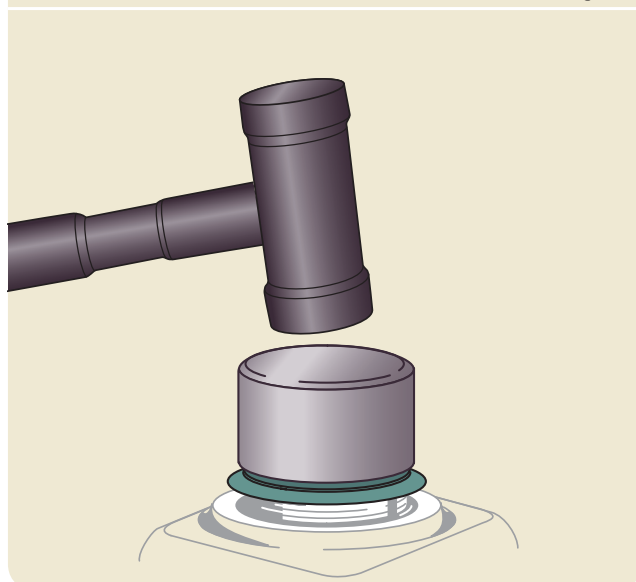


Fig. 8



Installation procedure

- 1 Clean the seal counterface surface on the shaft. File down any burrs or rough spots and make sure that the sleeve will not be installed over keyways, cross holes, splines or similar.
- 2 Measure the diameter on an unworn portion of the shaft where the sleeve will be positioned (→ **fig. 6**). Measure in three positions and average the readings to make sure the shaft is within recommended specifications. If the average diameter is within the range for a given sleeve size, there is sufficient press fit built into the sleeve to prevent it from sliding or spinning without using an adhesive.
- 3 Determine where the sleeve must be positioned to cover the worn area. Measure to the exact point, or mark directly on the surface. The sleeve must be placed over the worn area, not just bottomed or left flush with the end of the shaft.
- 4 Shallow wear grooves do not require filling. Optionally, a light layer of a non-hardening sealant can be applied to the inside diameter surface of the sleeve. Clean away sealant that migrates to the shaft or sleeve outside diameter surface.
- 5 If the shaft is deeply scored, fill the groove with a powdered metal epoxy-type filler. Install the sleeve before the filler hardens, enabling the sleeve to wipe off any excess filler. Clean away any remaining filler from the sleeve outside diameter surface.
- 6 It should be repeated that heat should never be used to install SKF Speedi-Sleeve.
- 7 If the flange should be removed after installation, cut it from the outside diameter into the radius in one location. The flange end of the sleeve goes on the shaft first. Then, place the installation tool over the sleeve (→ **fig. 7**).
- 8 Gently tap the centre of the installation tool until the sleeve covers the worn shaft surface (→ **fig. 8**). If the installation tool is too short, a length of pipe or tubing with a squared-off, burr-free end can be used. Be sure that the inside diameter of the pipe is the same as that of the installation tool. Use care not to scratch the precision ground sleeve's outside diameter.

- 9** SKF Speedi-Sleeve should always be installed so that the outside edge of the sleeve is seated on the full shaft diameter. It must not rest in or outside the chamfer area since the sharp edge will likely cut the sealing lip during seal installation.
- 10** If the flange was cut for removal, use a pair of long-nosed pliers to grasp the flange away from the sleeve and twist it into a coil, being careful not to lift the end of the sleeve off the shaft or it will leave a jagged edge. Flange removal must be done with care to avoid damage to the outside diameter of the sleeve.
- 11** After the sleeve is installed, check again for burrs that could damage the seal.
- 12** Lubricate the sleeve with the system medium before installing the seal.
- 13** Proceed with seal installation.

Removing SKF Speedi-Sleeve

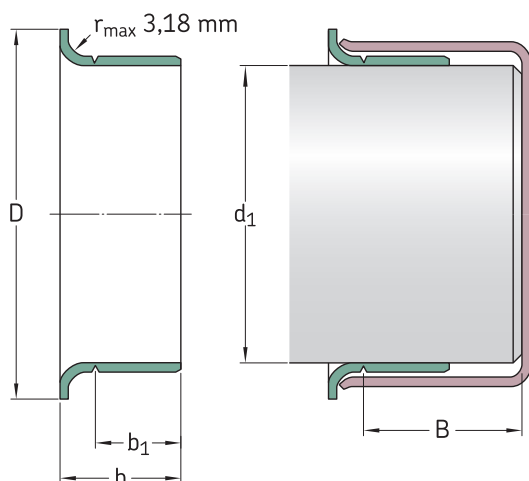
SKF Speedi-Sleeve can be removed by applying heat to the sleeve with an electric heat blower, which will expand it enough to let it slide off the shaft without causing any damage to the shaft.

Alternatively, the sleeve can be removed in any of the following ways, always using care not to damage the shaft surface:

- by relieving the press-fit tension using a small hammer to peen across the full width of the sleeve
- by using a cold chisel to cut through the sleeve
- by using a pair of wire cutters starting at or near the flange and applying a twisting motion

Please note that SKF Speedi-Sleeve cannot be reused.

SKF Speedi-Sleeve – metric dimensions (converted from inch dimensions)
d₁ 11,99 – 35,99 mm



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
11,99	12,07	11,99	15,49	5,99	8,41	47,63	99049
12,65	12,75	12,70	15,49	6,35	8,74	50,80	99050
13,89	14,00	14,00	19,05	6,35	9,93	46,51	99055
14,22	14,38	14,30	19,05	6,35	9,93	46,51	99056
14,96	15,06	15,01	19,05	5,00	8,99	47,29	99059
15,82	15,93	15,88	19,05	7,95	10,31	50,80	99810²⁾
		15,88	19,05	7,95	10,31	50,80	99062
15,90	16,00	16,00	18,24	7,95	11,13	50,80	99058
16,94	17,04	16,99	22,23	8,00	11,00	50,80	99068
17,32	17,42	17,37	22,86	7,95	11,13	50,80	99060
17,88	18,01	18,01	24,43	8,00	11,00	46,00	99082
19,00	19,10	19,05	24,00	7,95	11,13	50,80	99811²⁾
		19,05	24,00	7,95	11,13	50,80	99076
19,28	19,33	19,30	23,83	7,95	11,13	50,80	99081
19,81	19,91	19,84	23,75	7,95	11,13	50,80	99080
19,94	20,04	19,99	23,62	8,00	11,00	50,80	99078
20,62	20,70	20,65	30,18	9,53	14,30	76,20	99083
21,77	21,87	21,82	29,34	6,35	9,53	50,80	99086
21,87	22,00	22,00	30,18	6,58	9,12	47,14	99084
		22,00	30,18	8,00	11,99	46,02	99085
22,17	22,28	22,23	27,79	7,95	11,13	50,80	99812²⁾
		22,23	27,79	7,95	11,13	50,80	99087

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

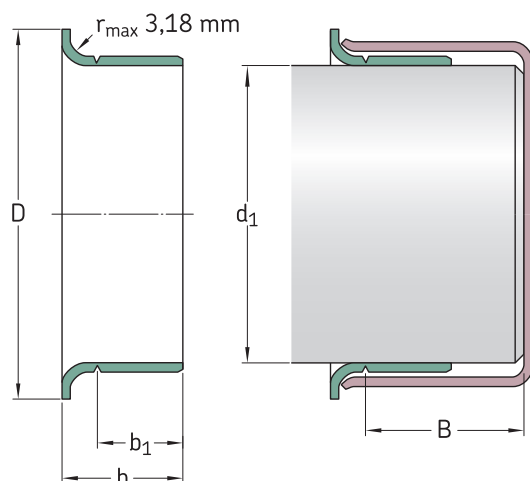
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
23,06	23,16	23,11 23,11	30,94 30,94	7,95 7,95	11,13 11,13	46,91 46,91	99860²⁾ 99091
23,88	24,00	24,00	28,70	7,95	11,13	50,80	99092
24,54	24,64	24,61 24,61	28,70 28,70	7,95 15,88	11,13 18,26	50,80 50,80	99094 99096
24,94	25,04	24,99 24,99	33,02 33,02	7,95 7,95	11,00 11,00	50,80 50,80	99813²⁾ 99098
25,35	25,45	25,40 25,40	30,96 30,96	7,95 7,95	11,13 11,13	50,80 50,80	99814²⁾ 99868
25,88	26,01	26,01	33,35	8,00	11,99	46,05	99103
26,92	27,03	27,00 27,00	33,53 33,53	7,95 7,95	11,13 11,13	46,81 46,81	99815²⁾ 99106
27,61	27,71	27,66	35,71	7,95	11,13	15,88	99108
27,94	28,04	27,99 27,99	34,93 34,93	9,53 9,53	12,70 12,70	46,81 46,81	99866³⁾ 99111
28,52	28,63	28,58 28,58 28,58	38,10 38,10 38,10	7,95 7,95 9,53	11,13 11,13 12,70	17,48 17,48 17,48	99816²⁾ 99112 99116
29,31	29,41	29,36 29,36	34,29 34,29	9,53 9,53	12,70 12,70	17,48 17,48	99865³⁾ 99120
29,79	29,92	29,85	35,56	7,95	11,13	17,48	99122
29,95	30,07	30,00	35,56	8,00	11,00	17,48	99114
30,10	30,23	30,18	35,56	7,95	11,13	17,48	99118
30,89	31,04	30,96	39,70	7,95	11,00	15,88	99123
31,42	31,57	31,50	39,12	8,00	11,13	17,48	99141
31,67	31,83	31,75 31,75	38,10 38,10	7,95 7,95	11,13 11,13	17,48 17,48	99817²⁾ 99125
31,93	32,08	32,00	38,10	8,00	11,13	17,48	99128
32,94	33,05	32,99	40,49	15,01	18,01	25,40	99121
33,22	33,38	33,35	40,64	6,35	9,53	20,65	99129
33,27	33,43	33,35 33,35	40,49 40,49	12,70 12,70	15,88 15,88	20,65 20,65	99818²⁾ 99131
33,86	34,01	34,01	41,28	12,70	15,88	20,65	99134
34,82	34,98	34,93 34,93 34,93	41,61 41,61 41,61	7,95 12,70 12,70	11,13 15,88 15,88	20,65 20,65 20,65	99133 99819²⁾ 99138
34,93	35,08	34,93 34,93	41,61 41,61	13,00 13,00	16,00 16,00	20,65 20,65	99820²⁾ 99139
35,84	35,99	35,99	45,24	13,00	16,99	24,99	99146

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – metric dimensions (converted from inch dimensions)

d₁ 36,37 – 54,10 mm



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
36,37	36,53	36,53	45,24	14,30	17,48	25,81	99821 ²⁾
		36,53	45,24	14,30	17,48	25,81	99143
36,45	36,60	36,53	45,24	9,53	12,70	25,81	99144
37,85	38,00	38,00	45,24	13,00	16,99	24,99	99147
38,02	38,18	38,10	45,24	9,53	12,70	25,81	99823 ²⁾
		38,10	45,24	9,53	12,70	25,81	99150
		38,10	45,24	14,30	17,48	25,81	99822 ²⁾
		38,10	45,24	14,30	17,48	25,81	99149
38,61	38,76	38,68	47,22	11,13	14,30	25,81	99152
39,34	39,50	39,42	47,22	11,13	14,30	25,81	99155
39,60	39,75	39,67	47,22	14,30	17,48	25,81	99824 ²⁾
		39,67	47,22	14,30	17,48	25,81	99156
39,78	39,93	39,85	47,22	15,88	19,05	25,81	99159
39,85	40,01	40,01	46,99	9,91	12,93	25,40	99153
39,93	40,08	40,08	46,99	13,00	16,00	25,98	99825 ²⁾
		40,08	46,99	13,00	16,00	25,98	99157
40,69	40,84	40,77	49,23	12,70	16,28	25,40	99160
40,84	41,00	41,00	49,23	12,70	15,88	25,81	99163
41,20	41,35	41,28	47,63	7,95	11,13	25,81	99161
		41,28	47,63	14,30	17,48	20,65	99826 ²⁾
		41,28	47,63	14,30	17,48	20,65	99162
41,83	42,01	41,91	53,01	11,30	14,50	21,49	99166
		41,91	53,01	14,30	17,50	21,01	99169
		42,01	53,01	14,30	17,50	21,01	99873 ²⁾

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

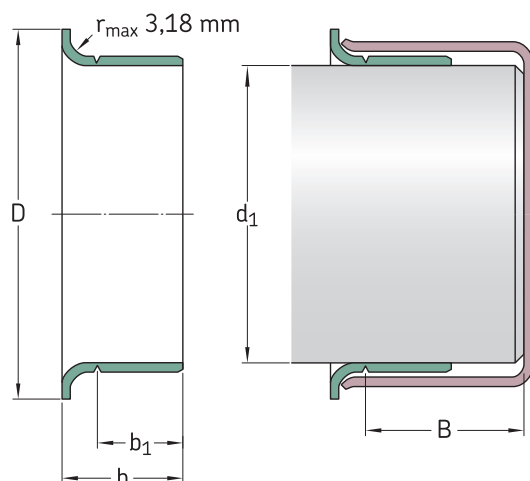
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
41,99	42,14	42,06	53,01	13,97	17,50	21,01	99165
42,77	42,93	42,88	48,41	14,30	17,48	22,23	99168
42,80	42,95	42,88	48,41	7,95	11,13	22,23	99167
42,85	43,00	43,00	48,41	12,70	15,88	21,44	99182
43,56	43,71	43,66	51,59	14,30	17,48	20,65	99171
44,09	44,25	44,17	52,40	9,53	12,70	20,65	99170
44,37	44,53	44,45	52,20	9,53	12,70	20,65	99172
		44,45	52,40	13,49	15,88	22,30	99180
		44,45	52,40	14,30	17,48	20,65	99827 ²⁾
		44,45	52,40	14,30	17,48	20,65	99174
		44,45	52,40	19,05	22,23	20,65	99828 ²⁾
		44,45	52,40	19,05	22,23	20,65	99175
44,73	44,88	44,86	52,40	14,30	17,48	20,65	99829 ²⁾
		44,86	52,40	14,30	17,48	20,65	99176
44,93	45,09	45,01	53,01	14,00	16,99	20,62	99830 ²⁾
		45,01	53,01	14,00	16,99	20,62	99177
45,16	45,31	45,24	53,98	16,94	20,32	26,97	99179
45,95	46,10	46,05	53,09	14,30	17,48	25,40	99831 ²⁾
		46,05	53,09	14,30	17,48	25,40	99181
47,17	47,32	47,22	54,76	14,30	17,48	25,40	99185
47,40	47,55	47,45	55,58	22,58	26,04	25,40	99186
47,55	47,70	47,63	55,96	4,45	7,49	18,90	99190
		47,63	55,96	7,49	10,54	18,90	99188
		47,63	55,96	9,53	13,11	26,67	99184
		47,63	55,96	14,30	17,48	25,40	99832 ²⁾
		47,63	55,96	14,30	17,48	25,40	99187
47,93	48,08	48,03	56,01	14,00	16,97	24,99	99189
48,49	48,64	48,56	56,36	9,53	12,70	25,40	99192
49,12	49,28	49,23	56,36	14,30	17,48	25,40	99833 ²⁾
		49,23	56,36	14,30	17,48	25,40	99193
49,91	50,06	50,01	56,49	14,00	16,97	34,29	99052
		50,01	57,00	14,00	16,97	24,99	99196
50,22	50,37	50,29	58,75	14,30	17,88	26,67	99198
50,72	50,88	50,80	61,11	14,30	17,48	25,55	99834 ²⁾
		50,80	61,11	14,30	17,48	25,40	99199
		50,80	61,11	22,23	25,40	25,40	99835 ²⁾
		50,80	61,11	22,23	25,40	25,40	99200
51,82	51,99	51,99	62,71	12,70	15,88	34,52	99878
52,25	52,40	52,40	62,71	19,84	23,83	34,93	99205
53,92	54,05	53,98	61,52	12,70	19,05	32,54	99210
53,95	54,10	53,98	61,52	19,84	23,83	34,93	99836 ²⁾
		53,98	61,52	19,84	23,83	34,93	99212

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – metric dimensions (converted from inch dimensions)

d_1 54,91 – 74,75 mm



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D $\pm 1,6$	b_1 $\pm 0,8$	b $\pm 0,8$	B ¹⁾	
mm		mm					–
54,91	55,07	54,99 54,99	62,00 62,00	19,99 19,99	22,99 22,99	31,75 31,75	99863 ²⁾ 99215
55,52	55,68	55,58	63,50	19,84	23,83	33,35	99218
55,83	56,01	56,01 56,01	64,29 64,29	12,70 19,79	15,88 23,77	33,35 80,01	99220 99224
56,57	56,72	56,64 56,64 56,64	64,29 64,29 64,29	12,70 12,70 19,84	15,88 15,88 23,01	33,35 33,35 31,75	99861 ²⁾ 99229 99230
56,82	56,97	56,90	65,10	19,41	22,86	31,75	99226
57,12	57,28	57,15 57,15 57,15 57,15	64,29 64,29 64,29 64,29	7,95 7,95 19,84 19,84	11,13 11,13 23,83 23,83	33,35 33,35 33,35 33,35	99838 ²⁾ 99227 99837 ²⁾ 99225
57,91	58,06	57,99	65,99	19,99	23,83	34,93	99219
58,65	58,80	58,75	68,28	19,84	23,83	34,93	99231
59,11	59,26	59,13	69,85	19,05	22,23	38,10	99233
59,92	60,07	59,99 59,99 59,99	70,74 70,74 70,74	9,40 19,99 19,99	11,43 22,99 22,99	37,36 34,93 34,93	99241 99869 ²⁾ 99235
60,25	60,40	60,33	69,85	15,09	19,05	34,93	99238
60,30	60,45	60,33 60,33 60,33	69,85 69,85 69,85	13,36 19,84 19,84	17,35 23,83 23,83	34,93 34,93 34,93	99240 99839 ²⁾ 99237
61,82	62,00	61,93 62,00	71,83 71,83	19,84 12,70	23,83 15,88	35,38 36,20	99243 99244

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

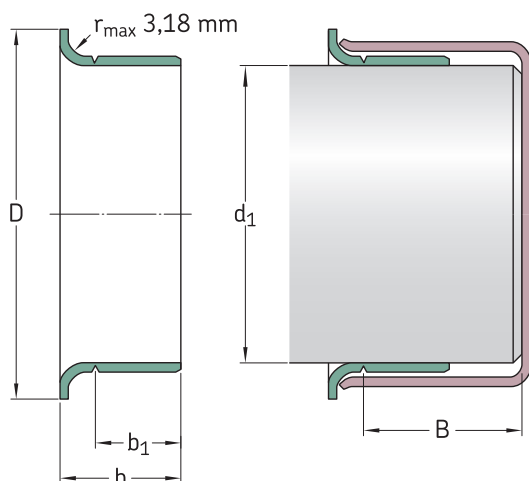
²⁾ SKF Speedi-Sleeve Gold

Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					—
61,85	62,00	61,93	71,83	12,70	15,88	36,20	99242
63,22	63,37	63,30	73,03	19,84	23,83	35,38	99249
63,42	63,58	63,50	71,63	14,10	16,51	22,61	99253
63,50	63,65	63,50	71,83	12,70	16,66	35,38	99248
		63,50	71,63	19,84	23,83	34,93	99840 ²⁾
		63,50	71,63	19,84	23,83	34,93	99250
63,75	63,91	63,91	71,83	19,84	23,01	36,53	99251
64,92	65,07	65,00	72,39	19,99	22,99	34,93	99841 ²⁾
		65,00	72,39	19,99	22,99	34,93	99254
65,02	65,18	65,10	73,43	19,84	23,83	34,93	99256
65,91	66,07	65,99	75,95	19,84	23,83	31,75	99259
66,50	66,65	66,57	77,39	19,84	23,83	34,93	99261
66,57	66,73	66,68	77,39	19,84	23,01	34,93	99264
66,60	66,75	66,68	77,39	12,70	15,88	34,93	99260
66,68	66,83	66,68	77,39	19,84	23,83	34,93	99842 ²⁾
		66,68	77,39	19,84	23,83	34,93	99262
67,82	68,00	68,00	79,38	19,05	22,23	42,88	99266
69,27	69,42	69,34	79,38	19,84	23,01	33,35	99268
69,60	69,75	69,67	77,85	19,84	23,83	31,75	99273
69,72	69,88	69,85	79,38	19,84	23,83	31,75	99843 ²⁾
		69,85	79,38	19,84	23,83	31,75	99274
69,77	69,93	69,85	78,11	36,53	41,28	41,28	99267
69,85	70,00	69,85	79,38	10,31	14,30	31,75	99272
		69,85	79,38	19,84	23,83	31,75	99844 ²⁾
		69,85	79,38	19,84	23,83	31,75	99275
		69,85	79,38	28,58	31,75	33,32	99269
69,93	70,08	70,00	79,38	19,99	24,00	31,75	99276
71,35	71,50	71,45	80,98	15,09	17,48	31,75	99281
71,83	72,01	72,01	81,92	19,05	22,23	34,11	99870 ²⁾
		72,01	81,92	19,05	22,23	34,11	99284
72,09	72,24	72,09	81,92	12,70	16,66	31,75	99845 ²⁾
		72,09	81,92	12,70	16,66	31,75	99282
72,80	72,95	72,87	80,98	19,84	23,83	31,75	99286
72,97	73,13	73,03	81,76	19,84	23,83	31,75	99846 ²⁾
		73,03	81,76	19,84	23,83	31,75	99287
74,60	74,75	74,63	84,94	12,70	16,28	33,81	99290
		74,63	84,94	19,84	23,83	33,35	99847 ²⁾
		74,68	84,94	19,84	23,83	33,35	99293

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – metric dimensions (converted from inch dimensions)
d₁ 74,93 – 98,53 mm



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
74,93	75,08	75,01	83,13	15,09	17,53	27,51	99289
		75,01	83,95	22,00	26,01	33,35	99875²⁾
		75,01	83,95	22,00	26,01	33,35	99294
75,49	75,59	75,54	82,17	20,65	25,40	31,75	99292
75,95	76,10	76,02	85,32	12,29	15,88	33,81	99291
		76,02	85,32	14,30	17,48	34,93	99298
		76,02	85,09	20,65	25,40	32,54	99299
76,12	76,28	76,20	82,30	20,65	23,83	34,93	99296
76,20	76,35	76,20	84,96	15,88	20,65	32,51	99048
		76,20	82,17	20,65	25,40	32,54	99848²⁾
		76,20	82,17	20,65	25,40	32,54	99300
76,40	76,56	76,48	85,22	12,70	15,88	50,80	99301
77,83	78,00	78,00	88,09	19,05	22,23	52,22	99306
79,25	79,40	79,38	89,69	17,48	20,65	50,80	99311
		79,38	89,69	20,65	25,40	50,80	99849²⁾
		79,38	89,69	20,65	25,40	50,80	99312
79,35	79,55	79,38	89,54	14,00	18,01	51,59	99053
79,81	80,01	80,01	89,92	19,05	22,50	34,93	99313
79,91	80,09	80,01	89,99	11,00	15,01	34,93	99317
		80,01	89,99	21,01	24,00	34,93	99315
81,92	82,07	81,99	91,06	16,76	21,54	44,45	99328
82,47	82,63	82,55	91,29	20,65	25,40	34,93	99322

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

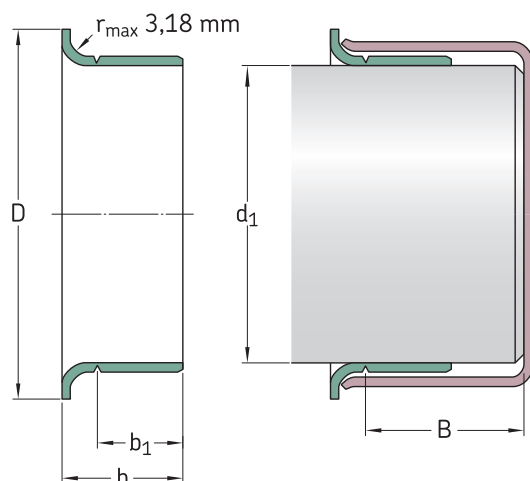
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
82,55	82,70	82,55	90,81	15,11	18,26	34,93	99850 ²⁾
		82,55	90,81	15,11	18,26	34,93	99324
		82,55	91,06	17,48	22,23	31,75	99326
		82,55	91,06	20,65	25,40	34,93	99851 ²⁾
		82,55	91,06	20,65	25,40	34,93	99325
84,00	84,15	84,07	93,68	20,65	25,40	34,93	99331
84,76	85,01	84,89	93,98	16,99	21,01	35,00	99332
		84,89	93,98	21,01	24,99	35,00	99872 ²⁾
		84,89	93,98	21,01	24,99	35,00	99333
84,79	85,01	85,01	90,93	10,13	12,67	36,35	99334
85,67	85,83	85,73	93,68	9,53	12,70	35,81	99338
		85,73	93,85	20,65	25,40	34,93	99337
87,25	87,40	87,33	97,64	19,84	23,01	35,71	99339
87,80	88,00	88,00	95,28	29,21	34,27	42,50	99481
88,32	88,47	88,39	97,41	19,84	23,01	35,71	99340
88,82	88,98	88,90	97,64	15,88	20,65	34,21	99346
88,90	89,05	88,90	97,16	7,95	12,70	34,21	99347
		88,90	97,64	20,65	25,40	34,21	99852 ²⁾
		88,90	97,64	20,65	25,40	34,21	99350
88,93	89,08	89,00	97,64	15,88	20,65	34,24	99349
89,92	90,07	89,99	101,60	11,13	13,67	46,05	99352
		89,99	101,60	13,36	16,94	44,45	99353
		89,99	101,60	18,03	23,01	46,05	99351
		89,99	101,60	23,01	27,99	44,45	99354
90,42	90,58	90,50	99,06	20,65	25,40	44,45	99356
91,90	92,05	91,97	102,39	20,65	25,40	44,45	99360
92,02	92,18	92,08	102,24	12,70	15,88	44,45	99363
		92,08	102,39	20,65	25,40	44,45	99362
93,57	93,73	93,68	102,39	7,95	11,13	22,23	99368
93,60	93,75	93,68	102,24	20,65	23,83	45,72	99365
94,67	94,82	94,74	102,01	11,91	15,09	45,72	99359
		94,74	102,24	19,84	23,01	45,72	99366
94,92	95,07	95,00	102,24	21,01	24,00	45,72	99369
95,00	95,15	95,07	102,39	8,74	12,70	45,72	99374
		95,07	102,49	11,91	15,09	45,72	99364
95,15	95,30	95,22	102,24	14,30	17,48	45,72	99376
95,25	95,40	95,25	102,11	17,48	22,23	45,72	99853 ²⁾
		95,33	102,24	8,74	12,70	45,72	99367
		95,33	102,11	17,48	22,23	45,72	99372
98,25	98,40	98,32	106,30	20,65	25,40	47,63	99386
98,37	98,53	98,43	107,16	20,65	25,40	47,63	99387

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – metric dimensions (converted from inch dimensions)

d₁ 99,95 – 152,48 mm



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
99,95	100,10	100,03	109,55	20,65	25,40	52,07	99854²⁾
		100,03	109,55	20,65	25,40	52,07	99393
101,55	101,75	101,60	111,13	12,70	15,88	52,48	99401
		101,60	111,13	15,24	18,42	52,07	99395
		101,60	111,13	16,51	19,69	34,93	99400
		101,60	111,13	20,65	25,40	52,07	99855²⁾
		101,60	111,13	20,65	25,40	52,07	99399
103,89	104,09	103,99	112,73	19,99	24,00	35,99	99409
104,70	104,90	104,78	113,54	20,65	25,40	34,93	99412
104,90	105,11	105,00	113,54	19,99	23,19	35,00	99413
106,25	106,45	106,38	114,30	20,65	25,40	34,93	99418
107,34	107,54	107,54	117,09	19,84	23,01	36,53	99423
107,90	108,10	107,95	117,09	20,65	25,40	36,53	99424
109,78	110,01	110,01	124,99	11,38	14,96	32,94	99434
109,91	110,11	109,93	124,99	12,93	16,51	31,75	99435
111,00	111,20	111,13	120,65	20,65	25,40	41,91	99437
111,79	111,99	111,99	120,65	19,05	22,50	33,02	99438
112,62	112,83	112,73	122,25	25,40	29,01	33,35	99439
114,20	114,40	114,30	123,19	20,65	25,40	31,75	99856²⁾
		114,30	124,46	20,65	25,40	31,75	99450
114,88	115,09	115,01	127,00	20,65	23,83	31,75	99452
117,37	117,58	117,48	127,00	11,13	15,88	34,93	99465
		117,48	128,60	25,40	31,75	34,93	99463

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

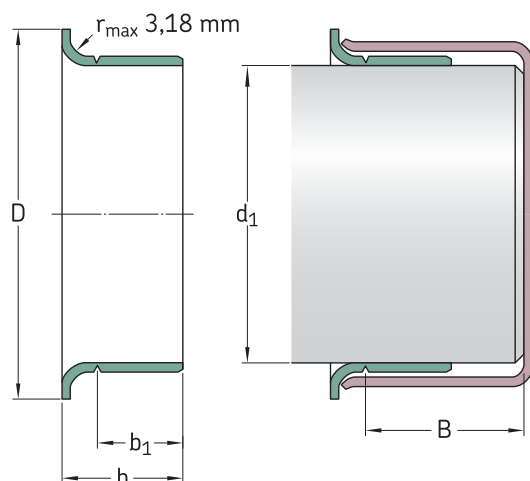
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					—
119,00	119,20	119,08	128,60	20,65	25,40	34,93	99468
119,89	120,09	119,99	129,79	8,00	11,00	33,60	99471
		119,99	129,79	19,99	24,99	32,00	99473
120,55	120,75	120,65	127,00	12,70	19,05	38,10	99475
121,89	122,10	122,00	131,50	19,99	24,00	32,00	99472
122,91	123,11	123,01	132,82	19,99	24,99	31,60	99484
123,72	123,93	123,83	133,35	15,88	19,05	36,53	99487
124,89	125,10	124,99	137,16	10,01	14,00	36,53	99490
		124,99	137,16	26,01	32,00	36,53	99492
126,95	127,15	127,00	137,16	13,72	17,30	36,53	99501
		127,00	137,16	17,48	22,23	36,53	99857²⁾
		127,00	137,16	17,48	22,23	36,53	99498
		127,00	136,91	20,65	25,40	36,53	99858²⁾
		127,00	136,91	20,65	25,40	36,53	99499
127,80	128,00	128,00	135,26	29,21	34,27	40,30	99482
129,79	130,00	129,90	139,52	19,05	23,83	30,00	99494
129,97	130,18	130,00	139,52	22,00	25,30	32,51	99874²⁾
		130,18	139,52	22,00	25,30	32,51	99491
130,05	130,25	130,18	139,70	20,65	25,40	31,75	99513
133,25	133,45	133,35	141,22	20,65	25,40	31,75	99525
134,80	135,00	134,90	145,67	20,50	25,40	31,75	99533
136,42	136,63	136,53	149,23	20,65	25,40	31,75	99537
138,02	138,23	138,13	146,05	38,10	42,88	47,63	99548
138,99	139,19	139,09	149,86	14,30	19,05	31,34	99547
139,65	139,85	139,70	150,83	13,16	17,91	31,75	99550
		139,70	150,83	20,65	25,40	31,75	99859²⁾
		139,70	150,83	20,65	25,40	31,75	99549
139,90	140,11	140,00	151,00	20,50	25,40	31,75	99552
142,77	142,98	142,88	157,18	22,23	25,40	46,02	99560
144,75	145,01	145,01	154,94	19,05	22,23	46,02	99571
145,44	145,64	145,64	154,94	14,30	19,05	49,23	99562
145,95	146,15	146,05	156,97	20,65	25,40	44,45	99575
149,12	149,33	149,23	157,18	25,40	31,75	33,35	99862²⁾
		149,23	157,18	25,40	31,75	33,35	99587
149,76	150,01	149,99	159,00	26,01	30,00	32,51	99595
150,72	150,93	150,83	161,93	25,40	28,58	47,63	99596
152,27	152,48	152,40	161,54	12,70	19,05	44,45	99601
		152,40	161,93	25,40	31,75	44,45	99599

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – metric dimensions (converted from inch dimensions)

d₁ 153,87 – 203,33 mm



All sleeves listed in the product table can be manufactured as both standard and Gold version.

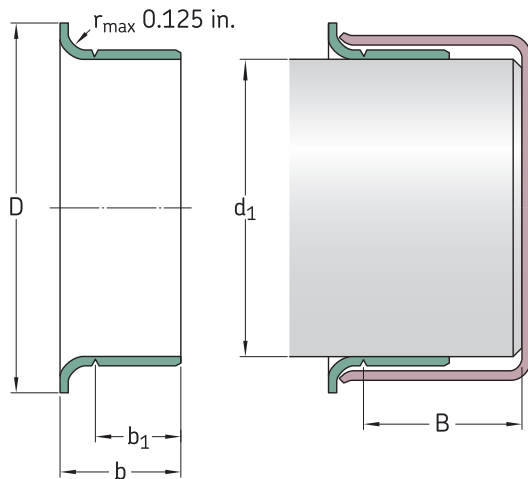
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±1,6	b ₁ ±0,8	b ±0,8	B ¹⁾	
mm		mm					–
153,87	154,13	154,00	161,93	26,01	30,00	32,99	99605
154,74	154,99	154,86	167,01	26,01	30,00	32,99	99606
157,43	157,68	157,56	168,28	20,65	27,00	44,45	99620
158,62	158,88	158,75	168,28	26,19	31,75	44,45	99625
159,74	159,99	159,99	171,45	25,40	31,75	34,93	99630
164,97	165,23	165,10	177,80	25,40	31,75	34,93	99650
169,75	170,00	169,88	182,58	31,75	38,00	44,45	99640
171,32	171,58	171,45	180,98	20,65	27,00	44,45	99675
174,75	175,01	175,01	186,99	27,99	32,00	35,00	99687
177,67	177,93	177,80	189,87	25,40	31,75	42,88	99864 ²⁾
		177,80	189,87	25,40	31,75	42,88	99700
179,76	180,01	180,01	190,50	32,99	38,00	44,50	99721
184,00	184,25	184,15	197,10	31,75	38,10	55,25	99725
184,73	184,99	184,86	197,10	32,00	38,00	54,99	99726
189,08	189,33	189,31	199,64	20,65	25,40	31,75	99745
190,37	190,63	190,50	200,03	20,65	25,40	31,75	99750
196,72	196,98	196,85	210,06	25,40	33,35	47,63	99775
199,87	200,13	200,03	212,73	34,52	38,10	44,45	99787
201,50	201,75	201,63	212,73	25,40	31,75	44,45	99799
203,07	203,33	203,20	212,73	25,40	31,75	44,45	99800

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – inch dimensions

d_1 0.472 – 0.877 in.



All sleeves listed in the product table can be manufactured as both standard and Gold version.

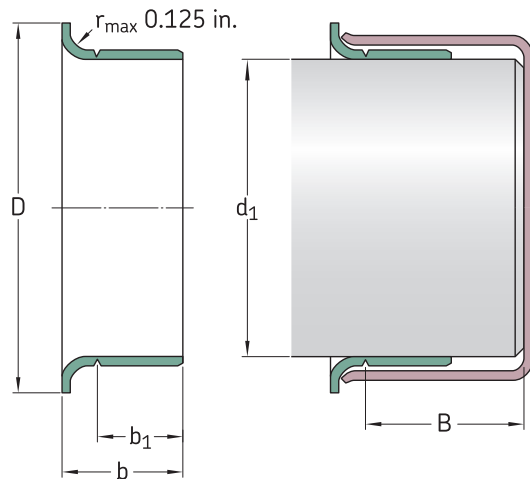
Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D ± 0.063	b_1 ± 0.031	b ± 0.031	B ¹⁾	
in.		in.					–
0.472	0.475	0.472	0.610	0.236	0.331	1.875	99049
0.498	0.502	0.500	0.610	0.250	0.344	2.000	99050
0.547	0.551	0.551	0.750	0.250	0.391	1.831	99055
0.560	0.566	0.563	0.750	0.250	0.391	1.831	99056
0.589	0.593	0.591	0.750	0.197	0.354	1.862	99059
0.623	0.627	0.625	0.750	0.313	0.406	2.000	99810 ²⁾
		0.625	0.750	0.313	0.406	2.000	99062
0.626	0.630	0.630	0.718	0.313	0.438	2.000	99058
0.667	0.671	0.669	0.875	0.315	0.433	2.000	99068
0.682	0.686	0.684	0.900	0.313	0.438	2.000	99060
0.704	0.709	0.709	0.962	0.315	0.433	1.811	99082
0.748	0.752	0.750	0.945	0.313	0.438	2.000	99811 ²⁾
		0.750	0.945	0.313	0.438	2.000	99076
0.759	0.761	0.760	0.938	0.313	0.438	2.000	99081
0.780	0.784	0.781	0.935	0.313	0.438	2.000	99080
0.785	0.789	0.787	0.930	0.315	0.433	2.000	99078
0.812	0.815	0.813	1.188	0.375	0.563	3.000	99083
0.857	0.861	0.859	1.155	0.250	0.375	2.000	99086
0.861	0.866	0.866	1.188	0.259	0.359	1.856	99084
		0.866	1.188	0.315	0.472	1.812	99085
0.873	0.877	0.875	1.094	0.313	0.438	2.000	99812 ²⁾
		0.875	1.094	0.313	0.438	2.000	99087

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – inch dimensions

d_1 0.908 – 1.659 in.



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D ± 0.063	b_1 ± 0.031	b ± 0.031	B ¹⁾	
in.		in.					–
0.908	0.912	0.910	1.218	0.313	0.438	1.847	99860 ²⁾
		0.910	1.218	0.313	0.438	1.847	99091
0.940	0.945	0.945	1.130	0.313	0.438	2.000	99092
0.966	0.970	0.969	1.130	0.313	0.438	2.000	99094
		0.969	1.130	0.625	0.719	2.000	99096
0.982	0.986	0.984	1.300	0.313	0.433	2.000	99813 ²⁾
		0.984	1.300	0.313	0.433	2.000	99098
0.998	1.002	1.000	1.219	0.313	0.438	2.000	99814 ²⁾
		1.000	1.219	0.313	0.438	2.000	99868
1.019	1.024	1.024	1.313	0.315	0.472	1.813	99103
1.060	1.064	1.063	1.320	0.313	0.438	1.843	99815 ²⁾
		1.063	1.320	0.313	0.438	1.843	99106
1.087	1.091	1.089	1.406	0.313	0.438	0.625	99108
1.100	1.104	1.102	1.375	0.375	0.500	1.843	99866 ²⁾
		1.102	1.375	0.375	0.500	1.843	99111
1.123	1.127	1.125	1.500	0.313	0.438	0.688	99816 ²⁾
		1.125	1.500	0.313	0.438	0.688	99112
		1.125	1.500	0.375	0.500	0.688	99116
1.154	1.158	1.156	1.350	0.375	0.500	0.688	99865 ²⁾
		1.156	1.350	0.375	0.500	0.688	99120
1.173	1.178	1.175	1.400	0.313	0.438	0.688	99122
1.179	1.184	1.181	1.400	0.315	0.433	0.688	99114
1.185	1.190	1.188	1.400	0.313	0.438	0.688	99118
1.216	1.222	1.219	1.563	0.313	0.433	0.625	99123

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

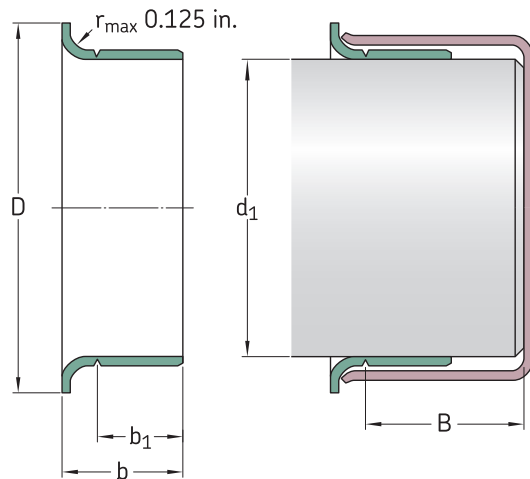
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±0.063	b ₁ ±0.031	b ±0.031	B ¹⁾	
in.		in.					–
1.237	1.243	1.240	1.540	0.315	0.438	0.688	99141
1.247	1.253	1.250	1.500	0.313	0.438	0.688	99817²⁾
		1.250	1.500	0.313	0.438	0.688	99125
1.257	1.263	1.260	1.500	0.315	0.438	0.688	99128
1.297	1.301	1.299	1.594	0.591	0.709	1.000	99121
1.308	1.314	1.313	1.600	0.250	0.375	0.813	99129
1.310	1.316	1.313	1.594	0.500	0.625	0.813	99818²⁾
		1.313	1.594	0.500	0.625	0.813	99131
1.333	1.339	1.339	1.625	0.500	0.625	0.813	99134
1.371	1.377	1.375	1.638	0.313	0.438	0.813	99133
		1.375	1.638	0.500	0.625	0.813	99819²⁾
		1.375	1.638	0.500	0.625	0.813	99138
1.375	1.381	1.375	1.638	0.512	0.630	0.813	99820²⁾
		1.375	1.638	0.512	0.630	0.813	99139
1.411	1.417	1.417	1.781	0.512	0.669	0.984	99146
1.432	1.438	1.438	1.781	0.563	0.688	1.016	99821²⁾
		1.438	1.781	0.563	0.688	1.016	99143
1.435	1.441	1.438	1.781	0.375	0.500	1.016	99144
1.490	1.496	1.496	1.781	0.512	0.669	0.984	99147
1.497	1.503	1.500	1.781	0.375	0.500	1.016	99823²⁾
		1.500	1.781	0.375	0.500	1.016	99150
		1.500	1.781	0.563	0.688	1.016	99822²⁾
		1.500	1.781	0.563	0.688	1.016	99149
1.520	1.526	1.523	1.859	0.438	0.563	1.016	99152
1.549	1.555	1.552	1.859	0.438	0.563	1.016	99155
1.559	1.565	1.562	1.859	0.563	0.688	1.016	99824²⁾
		1.562	1.859	0.563	0.688	1.016	99156
1.566	1.572	1.569	1.859	0.625	0.750	1.016	99159
1.569	1.575	1.575	1.850	0.390	0.509	1.000	99153
1.572	1.578	1.578	1.850	0.512	0.630	1.023	99825²⁾
		1.578	1.850	0.512	0.630	1.023	99157
1.602	1.608	1.605	1.938	0.500	0.641	1.000	99160
1.608	1.614	1.614	1.938	0.500	0.625	1.016	99163
1.622	1.628	1.625	1.875	0.313	0.438	1.016	99161
		1.625	1.875	0.563	0.688	0.813	99826²⁾
		1.625	1.875	0.563	0.688	0.813	99162
1.647	1.654	1.650	2.087	0.445	0.571	0.846	99166
		1.650	2.087	0.563	0.689	0.827	99169
		1.654	2.087	0.563	0.689	0.827	99873²⁾
1.653	1.659	1.656	2.087	0.550	0.689	0.827	99165

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – inch dimensions

d_1 1.684 – 2.441 in.



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D ± 0.063	b_1 ± 0.031	b ± 0.031	B ¹⁾	
in.		in.					–
1.684	1.690	1.688	1.906	0.563	0.688	0.875	99168
1.685	1.691	1.688	1.906	0.313	0.438	0.875	99167
1.687	1.693	1.693	1.906	0.500	0.625	0.844	99182
1.715	1.721	1.719	2.031	0.563	0.688	0.813	99171
1.736	1.742	1.739	2.063	0.375	0.500	0.813	99170
1.747	1.753	1.750	2.055	0.375	0.500	0.813	99172
		1.750	2.063	0.531	0.625	0.878	99180
		1.750	2.063	0.563	0.688	0.813	99827²⁾
		1.750	2.063	0.563	0.688	0.813	99174
		1.750	2.063	0.750	0.875	0.813	99828²⁾
		1.750	2.063	0.750	0.875	0.813	99175
1.761	1.767	1.766	2.063	0.563	0.688	0.813	99829²⁾
		1.766	2.063	0.563	0.688	0.813	99176
1.769	1.775	1.772	2.087	0.551	0.669	0.812	99830²⁾
		1.772	2.087	0.551	0.669	0.812	99177
1.778	1.784	1.781	2.125	0.667	0.800	1.062	99179
1.809	1.815	1.813	2.090	0.563	0.688	1.000	99831²⁾
		1.813	2.090	0.563	0.688	1.000	99181
1.857	1.863	1.859	2.156	0.563	0.688	1.000	99185
1.866	1.872	1.868	2.188	0.889	1.025	1.000	99186
1.872	1.878	1.875	2.203	0.175	0.295	0.744	99190
		1.875	2.203	0.295	0.415	0.744	99188
		1.875	2.203	0.375	0.516	1.050	99184
		1.875	2.203	0.563	0.688	1.000	99832²⁾
		1.875	2.203	0.563	0.688	1.000	99187

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

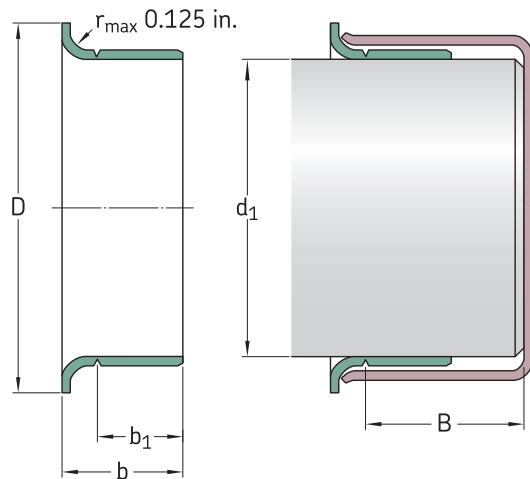
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±0.063	b ₁ ±0.031	b ±0.031	B ¹⁾	
in.		in.					–
1.887	1.893	1.891	2.205	0.551	0.668	0.984	99189
1.909	1.915	1.912	2.219	0.375	0.500	1.000	99192
1.934	1.940	1.938	2.219	0.563	0.688	1.000	99833²⁾
		1.938	2.219	0.563	0.688	1.000	99193
1.965	1.971	1.969	2.244	0.551	0.668	1.350	99052
		1.969	2.244	0.551	0.668	0.984	99196
1.977	1.983	1.980	2.313	0.563	0.704	1.050	99198
1.997	2.003	2.000	2.406	0.563	0.688	1.006	99834²⁾
		2.000	2.406	0.563	0.688	1.000	99199
		2.000	2.406	0.875	1.000	1.000	99835²⁾
		2.000	2.406	0.875	1.000	1.000	99200
2.040	2.047	2.047	2.469	0.500	0.625	1.359	99878
2.057	2.063	2.063	2.469	0.781	0.938	1.375	99205
2.123	2.128	2.125	2.422	0.500	0.750	1.281	99210
2.124	2.130	2.125	2.422	0.781	0.938	1.375	99836²⁾
		2.125	2.422	0.781	0.938	1.375	99212
2.162	2.168	2.165	2.441	0.787	0.905	1.250	99863²⁾
		2.165	2.441	0.787	0.905	1.250	99215
2.186	2.192	2.188	2.500	0.781	0.938	1.313	99218
2.198	2.205	2.205	2.531	0.500	0.625	1.313	99220
		2.205	2.531	0.779	0.936	3.150	99224
2.227	2.233	2.230	2.531	0.500	0.625	1.313	99861²⁾
		2.230	2.531	0.500	0.625	1.313	99229
		2.230	2.531	0.781	0.906	1.250	99230
2.237	2.243	2.240	2.563	0.764	0.900	1.250	99226
2.249	2.255	2.250	2.531	0.313	0.438	1.313	99838²⁾
		2.250	2.531	0.313	0.438	1.313	99227
		2.250	2.531	0.781	0.938	1.313	99837²⁾
		2.250	2.531	0.781	0.938	1.313	99225
2.280	2.286	2.283	2.598	0.787	0.938	1.375	99219
2.309	2.315	2.313	2.688	0.781	0.938	1.375	99231
2.327	2.333	2.328	2.750	0.750	0.875	1.500	99233
2.359	2.365	2.362	2.785	0.370	0.450	1.471	99241
		2.362	2.785	0.787	0.905	1.375	99869²⁾
		2.362	2.785	0.787	0.905	1.375	99235
2.372	2.378	2.375	2.750	0.594	0.750	1.375	99238
2.374	2.380	2.375	2.750	0.526	0.683	1.375	99240
		2.375	2.750	0.781	0.938	1.375	99839²⁾
		2.375	2.750	0.781	0.938	1.375	99237
2.434	2.441	2.438	2.828	0.781	0.938	1.393	99243
		2.441	2.828	0.500	0.625	1.425	99244
2.435	2.441	2.438	2.828	0.500	0.625	1.425	99242

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – inch dimensions

d_1 2.489 – 3.256 in.



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D ± 0.063	b_1 ± 0.031	b ± 0.031	B ¹⁾	
in.		in.					–
2.489	2.495	2.492	2.875	0.781	0.938	1.393	99249
2.497	2.503	2.500	2.820	0.555	0.650	0.890	99253
2.500	2.506	2.500	2.828	0.500	0.656	1.393	99248
		2.500	2.820	0.781	0.938	1.375	99840²⁾
		2.500	2.820	0.781	0.938	1.375	99250
2.510	2.516	2.516	2.828	0.781	0.906	1.438	99251
2.556	2.562	2.559	2.850	0.787	0.905	1.375	99841²⁾
		2.559	2.850	0.787	0.905	1.375	99254
2.560	2.566	2.563	2.891	0.781	0.938	1.375	99256
2.595	2.601	2.598	2.990	0.781	0.938	1.250	99259
2.618	2.624	2.621	3.047	0.781	0.938	1.375	99261
2.621	2.627	2.625	3.047	0.781	0.906	1.375	99264
2.622	2.628	2.625	3.047	0.500	0.625	1.375	99260
2.625	2.631	2.625	3.047	0.781	0.938	1.375	99842²⁾
		2.625	3.047	0.781	0.938	1.375	99262
2.670	2.677	2.677	3.125	0.750	0.875	1.688	99266
2.727	2.733	2.730	3.125	0.781	0.906	1.313	99268
2.740	2.746	2.743	3.065	0.781	0.938	1.250	99273
2.745	2.751	2.750	3.125	0.781	0.938	1.250	99843²⁾
		2.750	3.125	0.781	0.938	1.250	99274
2.747	2.753	2.750	3.075	1.438	1.625	1.625	99267

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

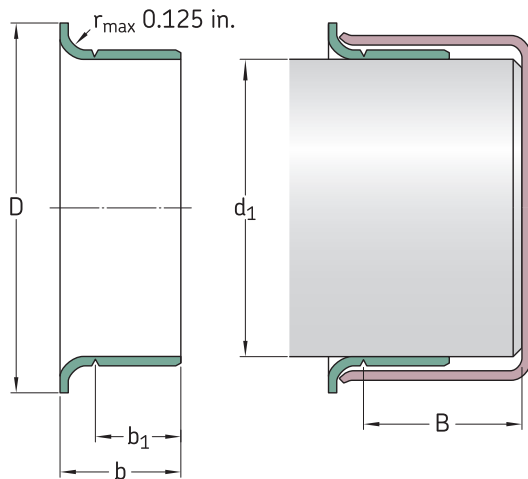
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±0.063	b ₁ ±0.031	b ±0.031	B ¹⁾	
in.		in.					–
2.750	2.756	2.750	3.125	0.406	0.563	1.250	99272
		2.750	3.125	0.781	0.938	1.250	99844²⁾
		2.750	3.125	0.781	0.938	1.250	99275
		2.750	3.125	1.125	1.250	1.312	99269
2.753	2.759	2.756	3.125	0.787	0.945	1.250	99276
2.809	2.815	2.813	3.188	0.594	0.688	1.250	99281
2.828	2.835	2.835	3.225	0.750	0.875	1.343	99870²⁾
		2.835	3.225	0.750	0.875	1.343	99284
2.838	2.844	2.838	3.225	0.500	0.656	1.250	99845²⁾
		2.838	3.225	0.500	0.656	1.250	99282
2.866	2.872	2.869	3.188	0.781	0.938	1.250	99286
2.873	2.879	2.875	3.219	0.781	0.938	1.250	99846²⁾
		2.875	3.219	0.781	0.938	1.250	99287
2.937	2.943	2.938	3.344	0.500	0.641	1.331	99290
		2.938	3.344	0.781	0.938	1.313	99847²⁾
		2.940	3.344	0.781	0.938	1.313	99293
2.950	2.956	2.953	3.273	0.594	0.690	1.083	99289
		2.953	3.305	0.866	1.024	1.313	99875²⁾
		2.953	3.305	0.866	1.024	1.313	99294
2.972	2.976	2.974	3.235	0.813	1.000	1.250	99292
2.990	2.996	2.993	3.359	0.484	0.625	1.331	99291
		2.993	3.359	0.563	0.688	1.375	99298
		2.993	3.350	0.813	1.000	1.281	99299
2.997	3.003	3.000	3.240	0.813	0.938	1.375	99296
3.000	3.006	3.000	3.345	0.625	0.813	1.280	99048
		3.000	3.235	0.813	1.000	1.281	99848²⁾
		3.000	3.235	0.813	1.000	1.281	99300
3.008	3.014	3.011	3.355	0.500	0.625	2.000	99301
3.064	3.071	3.071	3.468	0.750	0.875	2.056	99306
3.120	3.126	3.125	3.531	0.688	0.813	2.000	99311
		3.125	3.531	0.813	1.000	2.000	99849²⁾
		3.125	3.531	0.813	1.000	2.000	99312
3.124	3.132	3.125	3.525	0.551	0.709	2.031	99053
3.142	3.150	3.150	3.540	0.750	0.886	1.375	99313
3.146	3.153	3.150	3.543	0.433	0.591	1.375	99317
		3.150	3.543	0.827	0.945	1.375	99315
3.225	3.231	3.228	3.585	0.660	0.848	1.750	99328
3.247	3.253	3.250	3.594	0.813	1.000	1.375	99322
3.250	3.256	3.250	3.575	0.595	0.719	1.375	99850²⁾
		3.250	3.575	0.595	0.719	1.375	99324
		3.250	3.585	0.688	0.875	1.250	99326
		3.250	3.585	0.813	1.000	1.375	99851²⁾
		3.250	3.585	0.813	1.000	1.375	99325

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – inch dimensions

d_1 3.307 – 4.728 in.



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D ± 0.063	b_1 ± 0.031	b ± 0.031	B ¹⁾	
in.		in.					–
3.307	3.313	3.310	3.688	0.813	1.000	1.375	99331
3.337	3.347	3.342	3.700	0.669	0.827	1.378	99332
		3.342	3.700	0.827	0.984	1.378	99872²⁾
		3.342	3.700	0.827	0.984	1.378	99333
3.338	3.347	3.347	3.580	0.399	0.499	1.431	99334
3.373	3.379	3.375	3.688	0.375	0.500	1.410	99338
		3.375	3.695	0.813	1.000	1.375	99337
3.435	3.441	3.438	3.844	0.781	0.906	1.406	99339
3.457	3.465	3.465	3.751	1.150	1.349	1.673	99481
3.477	3.483	3.480	3.835	0.781	0.906	1.406	99340
3.497	3.503	3.500	3.844	0.625	0.813	1.347	99346
3.500	3.506	3.500	3.825	0.313	0.500	1.347	99347
		3.500	3.844	0.813	1.000	1.347	99852²⁾
		3.500	3.844	0.813	1.000	1.347	99350
3.501	3.507	3.504	3.844	0.625	0.813	1.348	99349
3.540	3.546	3.543	4.000	0.438	0.538	1.813	99352
		3.543	4.000	0.526	0.667	1.750	99353
		3.543	4.000	0.710	0.906	1.813	99351
		3.543	4.000	0.906	1.102	1.750	99354
3.560	3.566	3.563	3.900	0.813	1.000	1.750	99356
3.618	3.624	3.621	4.031	0.813	1.000	1.750	99360
3.623	3.629	3.625	4.025	0.500	0.625	1.750	99363
		3.625	4.031	0.813	1.000	1.750	99362
3.684	3.690	3.688	4.031	0.313	0.438	0.875	99368

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

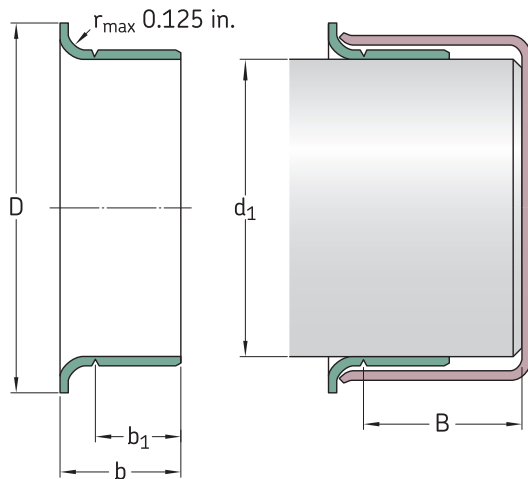
Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±0.063	b ₁ ±0.031	b ±0.031	B ¹⁾	
in.		in.					–
3.685	3.691	3.688	4.025	0.813	0.938	1.800	99365
3.727	3.733	3.730	4.016	0.469	0.594	1.800	99359
		3.730	4.025	0.781	0.906	1.800	99366
3.737	3.743	3.740	4.025	0.827	0.945	1.800	99369
3.740	3.746	3.743	4.031	0.344	0.500	1.800	99374
		3.743	4.035	0.469	0.594	1.800	99364
3.746	3.752	3.749	4.025	0.563	0.688	1.800	99376
3.750	3.756	3.750	4.020	0.688	0.875	1.800	99853²⁾
		3.753	4.025	0.344	0.500	1.800	99367
		3.753	4.020	0.688	0.875	1.800	99372
3.868	3.874	3.871	4.185	0.813	1.000	1.875	99386
3.873	3.879	3.875	4.219	0.813	1.000	1.875	99387
3.935	3.941	3.938	4.313	0.813	1.000	2.050	99854²⁾
		3.938	4.313	0.813	1.000	2.050	99393
3.998	4.006	4.000	4.375	0.500	0.625	2.066	99401
		4.000	4.375	0.600	0.725	2.050	99395
		4.000	4.375	0.650	0.775	1.375	99400
		4.000	4.375	0.813	1.000	2.050	99855²⁾
		4.000	4.375	0.813	1.000	2.050	99399
4.090	4.098	4.094	4.438	0.787	0.945	1.417	99409
4.122	4.130	4.125	4.470	0.813	1.000	1.375	99412
4.130	4.138	4.134	4.470	0.787	0.913	1.378	99413
4.183	4.191	4.188	4.500	0.813	1.000	1.375	99418
4.226	4.234	4.234	4.610	0.781	0.906	1.438	99423
4.248	4.256	4.250	4.610	0.813	1.000	1.438	99424
4.322	4.331	4.331	4.921	0.448	0.589	1.297	99434
4.327	4.335	4.328	4.921	0.509	0.650	1.250	99435
4.370	4.378	4.375	4.750	0.813	1.000	1.650	99437
4.401	4.409	4.409	4.750	0.750	0.886	1.300	99438
4.434	4.442	4.438	4.813	1.000	1.142	1.313	99439
4.496	4.504	4.500	4.850	0.813	1.000	1.250	99856²⁾
		4.500	4.900	0.813	1.000	1.250	99450
4.523	4.531	4.528	5.000	0.813	0.938	1.250	99452
4.621	4.629	4.625	5.000	0.438	0.625	1.375	99465
		4.625	5.063	1.000	1.250	1.375	99463
4.685	4.693	4.688	5.063	0.813	1.000	1.375	99468
4.720	4.728	4.724	5.110	0.315	0.433	1.323	99471
		4.724	5.110	0.787	0.984	1.260	99473

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

SKF Speedi-Sleeve – inch dimensions

d_1 4.746 – 8.005 in.



All sleeves listed in the product table can be manufactured as both standard and Gold version.

Shaft diameter range		Nominal dimensions					Designation
d_1 min	max	d_1	D ± 0.063	b_1 ± 0.031	b ± 0.031	B ¹⁾	
in.		in.					–
4.746	4.754	4.750	5.000	0.500	0.750	1.500	99475
4.799	4.807	4.803	5.177	0.787	0.945	1.260	99472
4.839	4.847	4.843	5.229	0.787	0.984	1.244	99484
4.871	4.879	4.875	5.250	0.625	0.750	1.438	99487
4.917	4.925	4.921	5.400	0.394	0.551	1.438	99490
		4.921	5.400	1.024	1.260	1.438	99492
4.998	5.006	5.000	5.400	0.540	0.681	1.438	99501
		5.000	5.400	0.688	0.875	1.438	99857²⁾
		5.000	5.400	0.688	0.875	1.438	99498
		5.000	5.390	0.813	1.000	1.438	99858²⁾
		5.000	5.390	0.813	1.000	1.438	99499
5.032	5.039	5.039	5.325	1.150	1.349	1.587	99482
5.110	5.118	5.114	5.493	0.750	0.938	1.181	99494
5.117	5.125	5.118	5.493	0.866	0.996	1.280	99874²⁾
		5.125	5.493	0.866	0.996	1.280	99491
5.120	5.128	5.125	5.500	0.813	1.000	1.250	99513
5.246	5.254	5.250	5.560	0.813	1.000	1.250	99525
5.307	5.315	5.311	5.735	0.807	1.000	1.250	99533
5.371	5.379	5.375	5.875	0.813	1.000	1.250	99537
5.434	5.442	5.438	5.750	1.500	1.688	1.875	99548
5.472	5.480	5.476	5.900	0.563	0.750	1.234	99547

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

Shaft diameter range		Nominal dimensions					Designation
d ₁ min	max	d ₁	D ±0.063	b ₁ ±0.031	b ±0.031	B ¹⁾	
in.		in.					–
5.498	5.506	5.500	5.938	0.518	0.705	1.250	99550
		5.500	5.938	0.813	1.000	1.250	99859 ²⁾
		5.500	5.938	0.813	1.000	1.250	99549
5.508	5.516	5.512	5.945	0.807	1.000	1.250	99552
5.621	5.629	5.625	6.188	0.875	1.000	1.812	99560
5.699	5.709	5.709	6.100	0.750	0.875	1.812	99571
5.726	5.734	5.734	6.100	0.563	0.750	1.938	99562
5.746	5.754	5.750	6.180	0.813	1.000	1.750	99575
5.871	5.879	5.875	6.188	1.000	1.250	1.313	99862 ²⁾
		5.875	6.188	1.000	1.250	1.313	99587
5.896	5.906	5.905	6.260	1.024	1.181	1.280	99595
5.934	5.942	5.938	6.375	1.000	1.125	1.875	99596
5.995	6.003	6.000	6.360	0.500	0.750	1.750	99601
		6.000	6.375	1.000	1.250	1.750	99599
6.058	6.068	6.063	6.375	1.024	1.181	1.299	99605
6.092	6.102	6.097	6.575	1.024	1.181	1.299	99606
6.198	6.208	6.203	6.625	0.813	1.063	1.750	99620
6.245	6.255	6.250	6.625	1.031	1.250	1.750	99625
6.289	6.299	6.299	6.750	1.000	1.250	1.375	99630
6.495	6.505	6.500	7.000	1.000	1.250	1.375	99650
6.683	6.693	6.688	7.188	1.250	1.496	1.750	99640
6.745	6.755	6.750	7.125	0.813	1.063	1.750	99675
6.880	6.890	6.890	7.362	1.102	1.260	1.378	99687
6.995	7.005	7.000	7.475	1.000	1.250	1.688	99864 ²⁾
		7.000	7.475	1.000	1.250	1.688	99700
7.077	7.087	7.087	7.500	1.299	1.496	1.752	99721
7.244	7.254	7.250	7.760	1.250	1.500	2.175	99725
7.273	7.283	7.278	7.760	1.260	1.496	2.165	99726
7.444	7.454	7.453	7.860	0.813	1.000	1.250	99745
7.495	7.505	7.500	7.875	0.813	1.000	1.250	99750
7.745	7.755	7.750	8.270	1.000	1.313	1.875	99775
7.869	7.879	7.875	8.375	1.359	1.500	1.750	99787
7.933	7.943	7.938	8.375	1.000	1.250	1.750	99799
7.995	8.005	8.000	8.375	1.000	1.250	1.750	99800

¹⁾ Possible max. distance of the rear groove from the shaft end when the installation tool supplied with the sleeve is used

²⁾ SKF Speedi-Sleeve Gold

Wear sleeves for heavy industrial applications (LDSLVS)

General

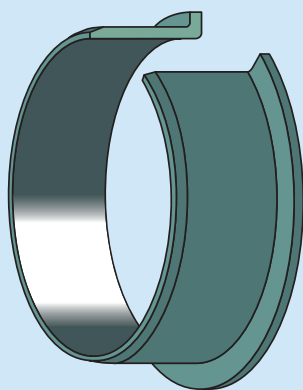
Outside contamination particles and polishing friction between a rotating shaft and a seal can, over time, result in severe shaft damage. Instead of repairing or replacing the damaged shaft, SKF recommends using wear sleeves for heavy industrial applications (LDSLVS) for shaft diameters ranging from 211,15 to 1 143 mm (8.313 to 45 in.). The sleeves are made to order for shaft diameters within the primary ranges listed in **tables 1** and **2**. A selection of sizes is listed in the product tables starting on **page 362**.

LDSLVS3 and LDSLV4 are recommended for applications where operating conditions for the seals are difficult, particularly where solid contaminants can reach the seals, like in rolling mills, primary metal plants and in chemical and mineral plants.

In applications where seal wear and shaft damage can be expected, SKF recommends installing the sleeves before the machine is operational. By installing them from the outset, it will not be necessary to rework the shaft before installing a replacement sleeve and the original size can be used for the replacement seal.

Table 1

Primary dimension range of LDSLV3



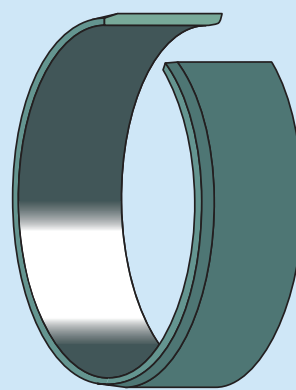
Shaft range		Width ¹⁾	
over	incl.	min	max
mm/in.		mm/in.	
211,15	736,60	17,48	63,50
8.313	29.000	0.688	2.500
736,60	1 143,00	25,40	63,50
29.000	45.000	1.000	2.500

¹⁾ Total width (b), 38,10 to 50,80 mm (1.5 to 2 in.) at 1 143,00 mm (45 in.) shaft diameter

Contact SKF for LDSLV3 designs outside the primary size range.

Table 2

Primary dimension range of LDSLV4



Shaft range		Width ¹⁾	
over	incl.	min	max
mm/in.		mm/in.	
211,15	736,60	12,70	63,50
8.313	29.000	0.500	2.500
736,60	1 143,00	19,05	63,50
29.000	45.000	0.750	2.500

¹⁾ Total width (b), 38,10 to 50,80 mm (1.5 to 2 in.) at 1 143,00 mm (45 in.) shaft diameter

Contact SKF for LDSLV4 designs outside the primary size range.

Designs and features

SKF wear sleeves for heavy industrial applications are available in two designs: the LDSLV3 with a flange (→ **fig. 9**) and the LDSLV4 without a flange (→ **fig. 10**). Both designs are made of SAE 1008 chromium-plated carbon steel to enhance wear and corrosion resistance. Other sleeve materials can be provided to meet the application's specific demands. The sleeve outside diameter is specially ground to provide a precision counterface surface for the seal. The wall thickness of the standard sleeves is 2,39 mm (0.094 in.).

LDSLV3 is designed with a flange to simplify final positioning of the sleeve. The width of the counterface surface for the seal is 6,35 mm (0.25 in.) narrower than the total width of the sleeve. The flange adds a nominal 25,4 mm (1 in.) over the shaft diameter. The flange height is 12,7 mm (0.5 in.) for all sizes. Note that force should never be applied directly to the flange when installing an LDSLV3.

LDSLV4 has the same features as LDSLV3 but has no flange. LDSLV4 is intended for applications where a flange could interfere with other components during installation, or where a wider seal counterface surface is required.

Fig. 9

LDSLV3

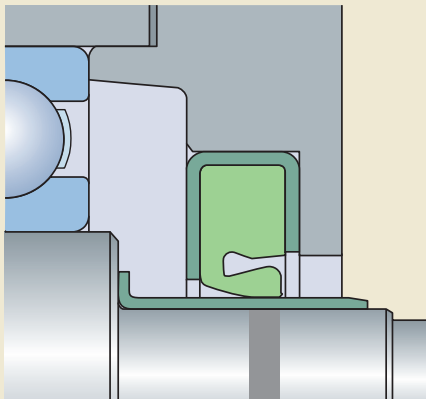
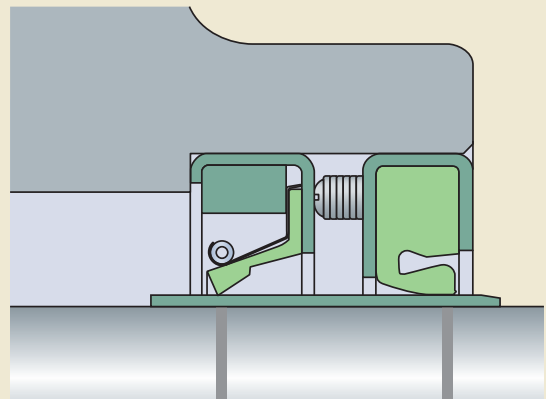


Fig. 10

LDSLV4



Wear sleeves

Using LDSLV designs

There are two alternative ways of using SKF wear sleeves for heavy industrial applications (→ **fig. 11**)

- 1 The sleeve is positioned on the shaft until it covers the damaged part and a new seal, designed for a 4,78 mm (0.188 in.) larger shaft diameter, is used.
- 2 The shaft is machined down by 4,78 mm (0.188 in.) in diameter, the sleeve is installed and the original seal size is used.

The reworked shaft surface for the sleeve should have a surface roughness between R_a 2,5 and 3,2 μm (100 to 125 $\mu\text{in.}$).

NOTE: The shaft tolerances for LDSLV designs, due to their heated slip-fit installation, are different from those for radial shaft seals. Contact SKF for assistance if the sleeves are to be used in systems with sustained temperatures higher than 75 °C (165 °F) and surface speeds in excess of 20 m/s (3 900 ft/min).

Installation

SKF wear sleeves for heavy industrial applications are designed for a heated slip-fit installation and must therefore be uniformly heated prior to installation. The sleeve temperature should be approximately 180 °C (355 °F). Under no circumstances should the sleeve be heated to above 200 °C (390 °F). Any heating techniques normally used for bearings are suitable, such as induction heaters or heating cabinets.

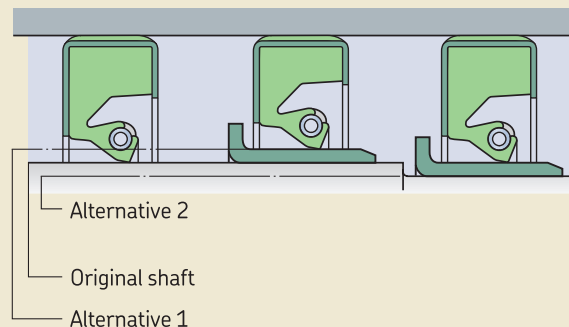
The sleeves should be installed immediately after heating since they cool rapidly and could seize on the shaft before the correct position is achieved. If repositioning is necessary, use a soft faced hammer and a wooden block. After the sleeve is in the desired position, check the lead-in chamfer for any damage during installation.

Removal

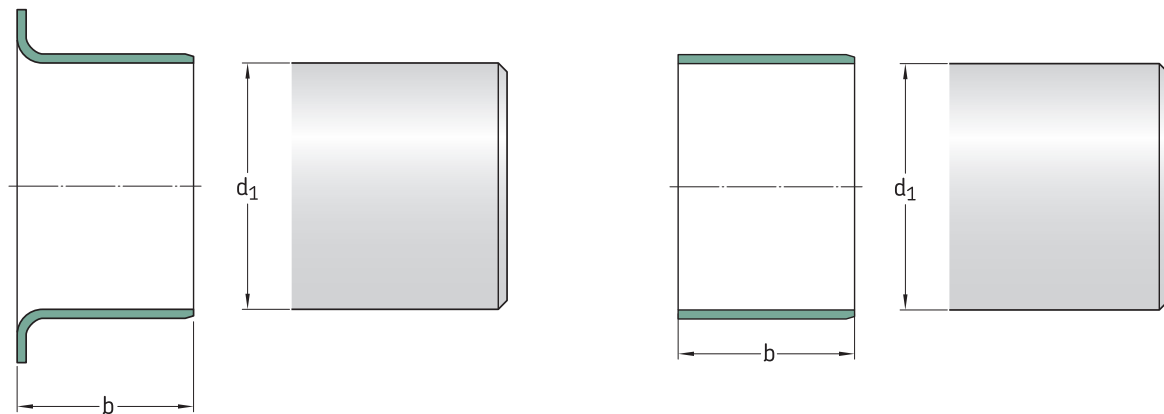
The wear sleeves can be removed either by heating them or expanding them by light hammer blows. Prior to removal, the flange of the LDSLV3 should be cut at one point, taking care not to damage the shaft surface.

Fig. 11

Using LDSLV designs



Wear sleeves for heavy industrial applications – LDSLV3 and LDSLV4 – metric dimensions
d₁ 215,00 – 1 100,23 mm



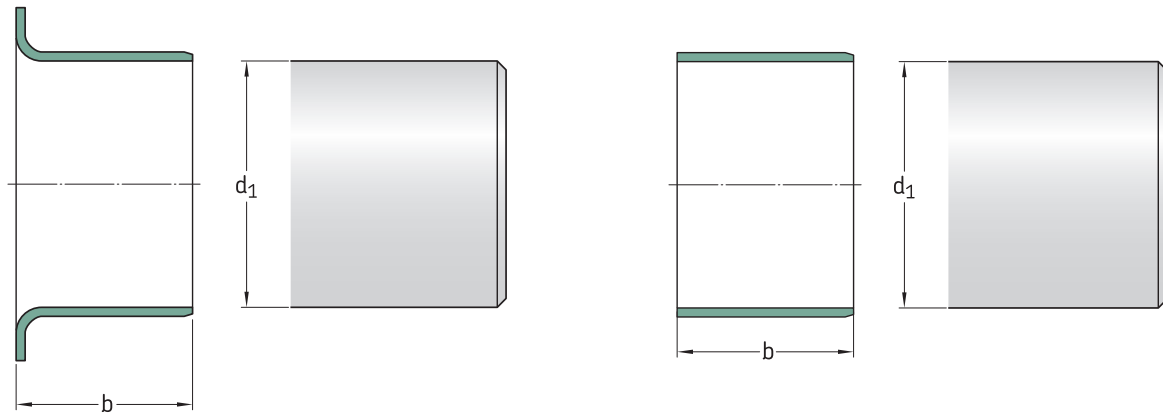
LDSLV3

LDSLV4

Shaft diameter	Sleeve width	Reference sleeve installed outside diameter	Design	Designation
d ₁	b			
mm	mm	mm	–	–
215,00	25,40	220	LDSLV3	90179
215,20	35	220	LDSLV3	87831
220,00	25	225	LDSLV3	90806
	40	225	LDSLV3	87914
	50,80	225	LDSLV3	87915
235,23	18	240	LDSLV4	90952
240,00	17,50	250	LDSLV3	90156
240,21	44	245	LDSLV4	87911
245,20	63,50	250	LDSLV3	90766
275,00	22	280	LDSLV4	90546
280,00	45	285	LDSLV4	90437
285,22	63,50	290	LDSLV4	90238
295,20	32	300	LDSLV3	90114
315,19	63,50	320	LDSLV4	90155
320,00	63,50	325	LDSLV4	90198
325,22	63,50	330	LDSLV4	90239
335,22	39	340	LDSLV4	90777
	50	340	LDSLV4	90792
340,00	18	340	LDSLV4	87901
	50	340	LDSLV4	90801
	50	345	LDSLV3	90113
355,20	25,40	360	LDSLV4	90778
	50	360	LDSLV4	90785
360,00	44	365	LDSLV4	87500

Shaft diameter d_1	Sleeve width b	Reference sleeve installed outside diameter	Design	Designation
mm	mm	mm	–	–
360,22	45	365	LDSL4	90788
365,20	20	370	LDSL4	87531
395,22	63,50	400	LDSL4	87461
405,23	50	410	LDSL4	90042
419,99	63,50	425	LDSL3	97064
435,20	63,50	440	LDSL4	87916
455,00	30	460	LDSL4	90347
455,20	50	460	LDSL4	87504
475,18	20	480	LDSL4	87921
494,44	24	500	LDSL4	90259
495,20	30	500	LDSL4	87503
503,25	24	508	LDSL4	90149
530,00	20	535	LDSL4	87783
535,23	63	540	LDSL4	90802
555,20	63,50	560	LDSL4	90075
575,23	63,50	580	LDSL4	90951
585,22	55	590	LDSL4	90292
595,20	58,20 63,50	600 600	LDSL3 LDSL4	90120 89997
595,22	50	600	LDSL3	90241
645,20	64	650	LDSL4	90004
645,24	63,50	650	LDSL3	87817
665,20	45	670	LDSL4	90799
685,22	63,50	690	LDSL4	90953
714,81	50	720	LDSL4	87820
735,23	63	740	LDSL4	89949
755,19	63,50	760	LDSL3	87981
865,23	63,50	870	LDSL4	90221
875,18	63,50	880	LDSL4	90103
1 015,20	25	1 020	LDSL4	90786
1 049,33	60	1 054	LDSL4	89947
1 100,23	63	1 105	LDSL4	89946

Wear sleeves for heavy industrial applications – LDSLV3 and LDSLV4 – inch dimensions
 d_1 8.313 – 10.441 in.



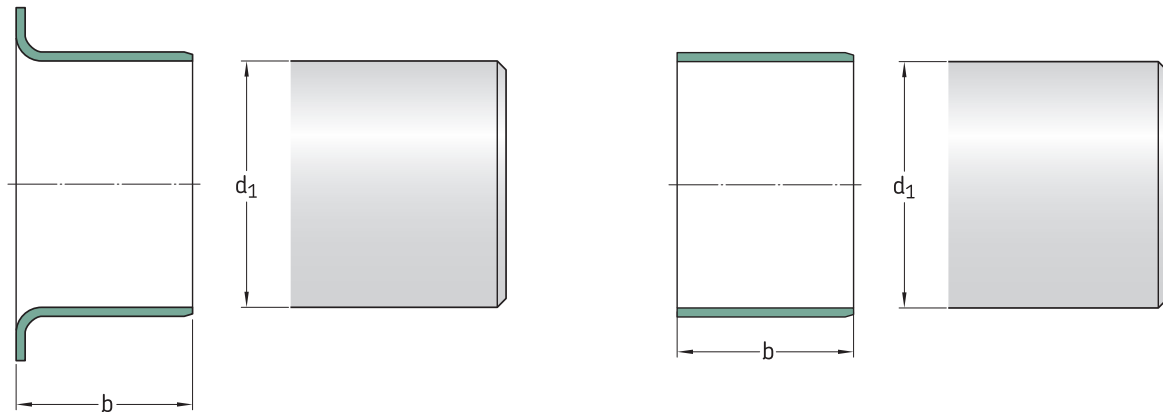
LDSLV3

LDSLV4

Shaft diameter	Sleeve width	Reference sleeve installed outside diameter	Design	Designation
d_1	b			
in./mm	in./mm	in./mm	–	–
8.313 211,15	1.250 31,75	8.501 215,93	LDSLV4	85885
8.353 212,17	1.500 38,10	8.541 216,94	LDSLV4	86907
8.500 215,90	1.000 25,40	8.688 220,68	LDSLV3	85158
8.625 219,08	2.750 69,85	8.813 223,85	LDSLV3	85643
8.661 220,00	1.000 25,40	8.849 224,76	LDSLV4	87319
8.687 220,65	2.250 57,15	8.875 225,43	LDSLV3	86543
8.750 222,25	1.500 38,10	8.938 227,03	LDSLV3	87196
8.812 223,82	2.000 50,80	9.000 228,60	LDSLV4	86551
8.813 223,85	1.000 25,40	9.001 228,63	LDSLV3	85688
8.866 225,20	2.500 63,50	9.054 229,97	LDSLV4	87166
8.867 225,22	1.000 25,40	9.055 230,00	LDSLV4	87462
8.875 225,43	1.250 31,75	9.063 230,20	LDSLV3	85973
	1.250 31,75	9.063 230,20	LDSLV4	87526
8.938 227,03	2.500 63,50	9.126 231,80	LDSLV4	86546

Shaft diameter d_1	Sleeve width b	Reference sleeve installed outside diameter	Design	Designation
in./mm	in./mm	in./mm	–	–
9.000 228,60	1.000 25,40	9.188 233,38	LDSL3	87555
9.055 230,00	1.000 25,40	9.243 234,77	LDSL3	89943
9.063 230,20	1.500 38,10	9.251 234,98	LDSL4	85931
9.125 231,78	1.000 25,40	9.313 236,55	LDSL4	86547
	1.500 38,10	9.313 236,55	LDSL4	90130
9.250 234,95	0.875 22,23	9.438 239,73	LDSL4	84643
9.260 235,20	1.102 27,99	9.448 239,98	LDSL4	87789
9.313 236,55	1.500 38,10	9.501 241,33	LDSL3	85377
9.449 240,00	1.181 30,00	9.637 244,78	LDSL4	87144
9.500 241,30	2.500 63,50	9.688 246,08	LDSL4	86562
	1.000 25,40	9.688 246,08	LDSL3	86633
9.563 242,90	1.000 25,40	9.751 247,68	LDSL4	85073
	2.000 50,80	9.751 247,68	LDSL4	85397
9.750 247,65	1.438 36,53	9.938 252,43	LDSL4	84965
	2.250 57,15	9.938 252,43	LDSL4	85045
9.813 249,25	1.125 28,58	10.001 254,03	LDSL4	86413
	2.000 50,80	10.001 254,03	LDSL3	84156
9.835 249,81	1.575 40,01	10.023 254,58	LDSL4	90773
10.000 254,00	1.000 25,40	10.188 258,78	LDSL3	90070
10.063 255,60	2.250 57,15	10.251 260,38	LDSL4	86000
10.188 258,78	1.125 28,58	10.376 263,55	LDSL4	84962
10.240 260,00	1.970 50,00	10.424 264,77	LDSL3	87738
10.313 261,95	2.000 50,80	10.501 266,73	LDSL4	85629
	2.250 57,15	10.501 266,73	LDSL3	85191
10.441 265,20	2.165 54,99	10.629 269,98	LDSL4	86798

Wear sleeves for heavy industrial applications – LDSLV3 and LDSLV4 – inch dimensions
d₁ 10.500 – 12.598 in.



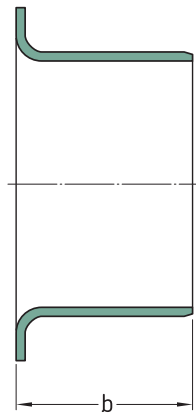
LDSLV3

LDSLV4

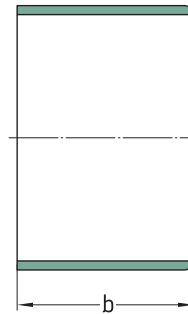
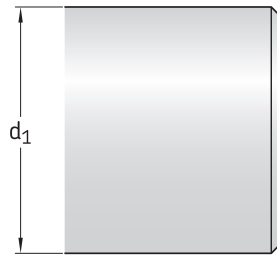
Shaft diameter	Sleeve width	Reference sleeve installed outside diameter	Design	Designation
d ₁	b			
in./mm	in./mm	in./mm	–	–
10.500 266,70	2.750 69,85	10.688 271,48	LDSLV4	86013
10.557 268,15	2.250 57,15	10.745 272,92	LDSLV4	85491
10.562 268,27	0.984 24,99	10.750 273,05	LDSLV4	90800
	1.750 44,45	10.750 273,05	LDSLV4	86468
	1.813 46,05	10.750 273,05	LDSLV4	86544
10.563 268,30	1.500 38,10	10.751 273,08	LDSLV4	87768
10.750 273,05	2.500 63,50	10.938 277,83	LDSLV4	86435
10.813 274,65	1.000 25,40	11.001 279,43	LDSLV3	81389
	2.000 50,80	11.001 279,43	LDSLV4	85033
10.846 275,49	0.709 18,01	11.034 280,26	LDSLV4	86601
10.875 276,23	2.000 50,80	11.063 281,00	LDSLV4	84510
11.000 279,40	1.500 38,10	11.188 284,18	LDSLV4	86486
	2.500 63,50	11.188 284,18	LDSLV4	86454
11.024 280,00	1.181 30,00	11.212 284,78	LDSLV4	87142
11.031 280,19	1.260 32,00	11.219 284,96	LDSLV4	87525

Shaft diameter d_1	Sleeve width b	Reference sleeve installed outside diameter	Design	Designation
in./mm	in./mm	in./mm	–	–
11.062 280,97	1.750 44,45	11.250 285,75	LDSL4	85469
11.187 284,15	1.250 31,75	11.375 288,93	LDSL4	86269
11.188 284,18	2.250 57,15	11.376 288,95	LDSL4	85212
11.190 284,23	2.250 57,15	11.378 289,00	LDSL4	87566
11.313 287,35	1.500 38,10	11.501 292,13	LDSL4	84094
11.375 288,93	2.250 57,15	11.563 293,70	LDSL4	86145
11.417 290,00	1.750 44,45	11.605 294,77	LDSL4	86441
11.500 292,10	0.750 19,05	11.688 296,88	LDSL4	90761
11.562 293,67	1.000 25,40	11.750 298,45	LDSL4	90333
11.623 295,22	1.417 35,99	11.811 300,00	LDSL3	87875
11.750 298,45	2.375 60,33	11.938 303,23	LDSL3	87872
11.812 300,02	1.125 28,58	12.000 304,80	LDSL4	86687
11.813 300,05	1.500 38,10	12.001 304,83	LDSL4	85979
	2.250 57,15	12.001 304,83	LDSL3	84819
	2.750 69,85	12.001 304,83	LDSL4	85844
11.969 304,00	0.709 18,00	12.157 308,79	LDSL4	86600
12.000 304,80	2.250 57,15	12.188 309,58	LDSL4	85577
	2.250 57,15	12.188 309,58	LDSL3	87406
12.063 306,40	0.625 15,88	12.251 311,18	LDSL4	85418
	2.500 63,50	12.251 311,18	LDSL3	86404
12.312 312,72	1.500 38,10	12.500 317,50	LDSL4	90174
12.313 312,75	0.750 19,05	12.501 317,53	LDSL4	83760
12.500 317,50	2.125 53,98	12.688 322,28	LDSL3	86169
12.598 320,00	0.984 25,00	12.786 324,76	LDSL3	87434

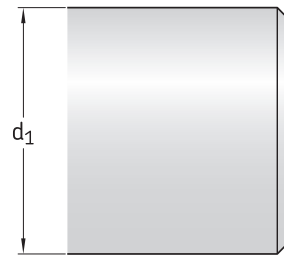
Wear sleeves for heavy industrial applications – LDSLV3 and LDSLV4 – inch dimensions
d₁ 12.750 – 16.813 in.



LDSLV3



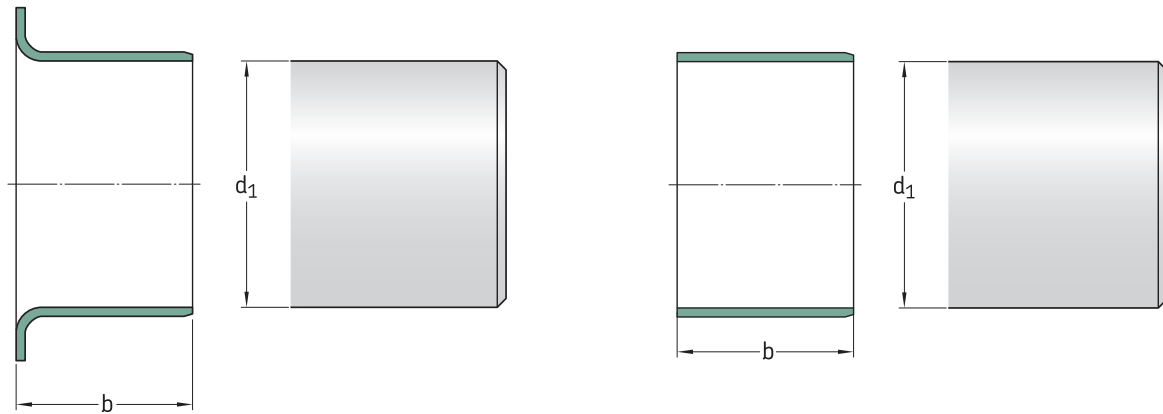
LDSLV4



Shaft diameter	Sleeve width	Reference sleeve installed outside diameter	Design	Designation
d ₁	b			
in./mm	in./mm	in./mm	–	–
12.750 323,85	0.688 17,48 1.125 28,58 1.500 38,10	12.938 328,63 12.938 328,63 12.938 328,63	LDSLV4 LDSLV3 LDSLV3	87513 82099 90143
12.813 325,45	1.000 25,40 1.375 34,93 2.000 50,80 2.500 63,50	13.001 330,23 13.001 330,23 13.001 330,23 13.001 330,23	LDSLV4 LDSLV4 LDSLV3 LDSLV4	86258 84263 84390 86722
13.000 330,20	1.750 44,45	13.188 334,98	LDSLV4	85535
13.063 331,80	1.125 28,58	13.251 336,53	LDSLV4	84963
13.313 338,15	0.813 20,65 1.500 38,10 2.000 50,80	13.501 342,93 13.501 342,93 13.501 342,93	LDSLV4 LDSLV4 LDSLV3	86688 87463 85852
13.813 350,85	1.500 38,10 2.000 50,80	14.001 355,63 14.001 355,63	LDSLV3 LDSLV4	81390 85179
14.000 355,60	1.375 34,93 1.500 38,10	14.188 360,38 14.188 360,38	LDSLV3 LDSLV3	89951 81352
14.173 359,99	1.000 25,40	14.361 364,77	LDSLV4	87445

Shaft diameter d_1	Sleeve width b	Reference sleeve installed outside diameter	Design	Designation
in./mm	in./mm	in./mm	–	–
14.313 363,55	1.500 38,10	14.501 368,33	LDSL4	86429
14.438 366,73	2.500 63,50	14.626 371,50	LDSL3	86403
14.500 368,30	1.000 25,40	14.688 373,08	LDSL4	85914
14.813 376,25	1.500 38,10	15.001 381,03	LDSL4	87723
	2.125 53,98	15.001 381,03	LDSL3	81391
15.000 381,00	1.000 25,40	15.188 385,78	LDSL4	87247
15.062 382,57	0.750 19,05	15.250 387,35	LDSL4	90272
15.066 382,68	1.000 25,40	15.254 387,45	LDSL3	87871
15.188 385,78	2.500 63,50	15.376 390,55	LDSL4	87569
15.250 387,35	0.750 19,05	15.438 392,13	LDSL3	84964
15.560 395,22	0.906 23,01	15.748 400,00	LDSL4	85582
15.812 401,62	2.500 63,50	16.000 406,40	LDSL3	87634
15.813 401,65	2.000 50,80	16.001 406,43	LDSL4	85181
	2.000 50,80	16.001 406,43	LDSL3	87446
	2.500 63,50	16.001 406,43	LDSL4	86407
15.998 406,35	2.250 57,15	16.186 411,12	LDSL3	85908
16.000 406,40	2.000 50,80	16.188 411,18	LDSL3	81354
16.063 408,00	0.500 12,70	16.251 412,78	LDSL4	87613
	1.250 31,75	16.251 412,78	LDSL4	86175
	1.300 33,02	16.251 412,78	LDSL4	86426
	2.000 50,80	16.251 412,78	LDSL4	86575
16.313 414,35	2.000 50,80	16.501 419,13	LDSL4	84697
16.750 425,45	1.500 38,10	16.938 430,23	LDSL4	87585
16.812 427,02	1.000 25,40	17.000 431,80	LDSL4	86737
16.813 427,05	2.250 57,15	17.001 431,83	LDSL4	84616

Wear sleeves for heavy industrial applications – LDSLV3 and LDSLV4 – inch dimensions
d₁ 17.250 – 25.000 in.



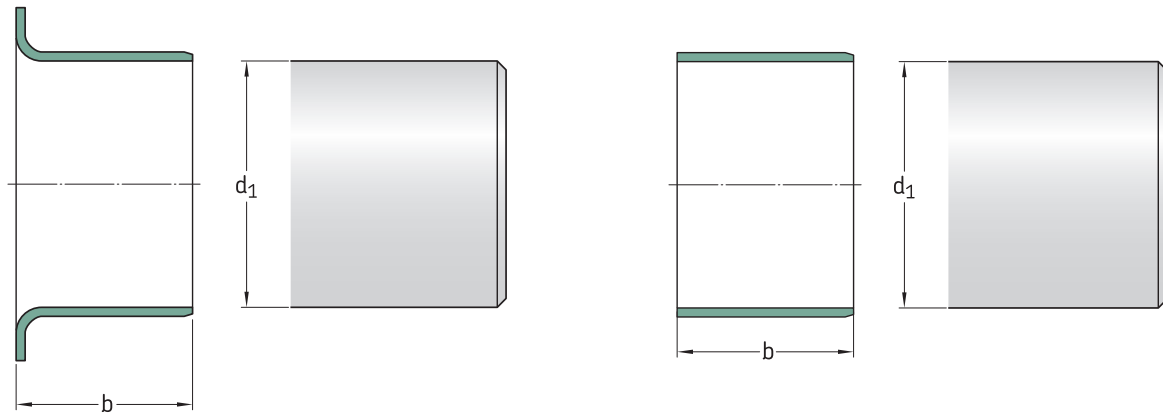
LDSLV3

LDSLV4

Shaft diameter	Sleeve width	Reference sleeve installed outside diameter	Design	Designation
d ₁	b			
in./mm	in./mm	in./mm	–	–
17.250 438,15	1.000 25,40	17.438 442,93	LDSLV4	90779
	2.000 50,80	17.438 442,93	LDSLV4	84576
17.313 439,75	1.500 38,10	17.501 444,53	LDSLV4	86430
17.449 443,20	2.000 50,80	17.637 447,98	LDSLV4	85762
17.500 444,50	1.250 31,75	17.688 449,28	LDSLV4	90770
17.543 445,59	2.362 59,99	17.731 450,37	LDSLV4	86799
17.750 450,85	1.250 31,75	17.938 455,63	LDSLV4	90774
	2.500 63,50	17.938 455,63	LDSLV3	86631
17.812 452,42	2.125 53,98	18.000 457,20	LDSLV4	87271
17.813 452,45	2.500 63,50	18.001 457,23	LDSLV3	86405
18.163 461,34	2.000 50,80	18.351 466,12	LDSLV4	86343
18.312 465,12	1.191 30,25	18.500 469,90	LDSLV4	90790
18.813 477,85	1.750 44,45	19.001 482,63	LDSLV4	86563
	2.250 57,15	19.001 482,63	LDSLV4	87015
	2.500 63,50	19.001 482,63	LDSLV4	86716

Shaft diameter d_1	Sleeve width b	Reference sleeve installed outside diameter	Design	Designation
in./mm	in./mm	in./mm	–	–
19.496 495,20	2.362 59,99	19.684 499,97	LDSL4	87631
19.497 495,22	1.575 40,01	19.685 500,00	LDSL4	87785
19.500 495,30	1.250 31,75	19.688 500,08	LDSL4	90769
19.563 496,90	2.750 69,85	19.751 501,68	LDSL4	85654
19.813 503,25	1.250 31,75	20.001 508,03	LDSL4	84781
20.312 515,92	1.000 25,40	20.500 520,70	LDSL4	86739
20.813 528,65	1.250 31,75	21.001 533,43	LDSL3	85800
	2.125 53,98	21.001 533,43	LDSL4	85367
	2.500 63,50	21.001 533,43	LDSL4	87298
20.865 529,97	2.250 57,15	21.053 534,75	LDSL4	90805
20.990 533,15	2.250 57,15	21.178 537,92	LDSL3	84579
21.000 533,40	2.250 57,15	21.188 538,18	LDSL4	87090
21.803 553,80	2.362 59,99	21.991 558,57	LDSL4	87069
21.813 554,05	2.250 57,15	22.001 558,83	LDSL4	84590
22.250 565,15	1.000 25,40	22.438 569,93	LDSL3	85691
22.303 566,50	2.362 59,99	22.491 571,27	LDSL4	87070
22.313 566,75	1.250 31,75	22.501 571,53	LDSL4	85907
22.812 579,42	2.000 50,80	23.000 584,20	LDSL4	90163
23.000 584,20	2.000 50,80	23.188 588,98	LDSL4	90146
23.434 595,22	0.984 24,99	23.622 600,00	LDSL4	87777
23.687 601,65	1.950 49,53	23.875 606,43	LDSL4	87907
23.812 604,82	0.750 19,05	24.000 609,60	LDSL4	87922
	2.500 63,50	24.000 609,60	LDSL4	87960
25.000 635,00	2.500 63,50	25.188 639,78	LDSL4	86567

Wear sleeves for heavy industrial applications – LDSLV3 and LDSLV4 – inch dimensions
 d_1 25.312 – 42.500 in.



LDSLV3

LDSLV4

Shaft diameter	Sleeve width	Reference sleeve installed outside diameter	Design	Designation
d_1	b			
in./mm	in./mm	in./mm	–	–
25.312 642,92	2.000 50,80	25.500 647,70	LDSLV4	86091
25.313 642,95	2.500 63,50	25.501 647,73	LDSLV4	87802
26.000 660,40	2.250 57,15	26.188 665,18	LDSLV3	86640
26.312 668,32	1.375 34,93	26.500 673,10	LDSLV4	90809
26.813 681,05	1.250 31,75	27.001 685,83	LDSLV4	85384
	2.250 57,15	27.001 685,83	LDSLV4	85531
27.000 685,80	2.000 50,80	27.188 690,58	LDSLV4	86841
27.063 687,40	2.250 57,15	27.251 692,18	LDSLV4	84764
27.313 693,75	2.250 57,15	27.501 698,53	LDSLV4	91331
27.500 698,50	2.250 57,15	27.688 703,28	LDSLV4	84711
27.812 706,42	2.500 63,50	28.000 711,20	LDSLV4	87421
28.312 719,12	2.313 58,75	28.500 723,90	LDSLV3	87623
28.813 731,85	2.250 57,15	29.001 736,63	LDSLV4	84641
29.813 757,25	2.250 57,15	30.001 762,03	LDSLV4	84642

Shaft diameter d_1	Sleeve width b	Reference sleeve installed outside diameter	Design	Designation
in./mm	in./mm	in./mm	–	–
30.000 762,00	2.500 63,50	30.188 766,78	LDSL3	86641
30.309 769,85	1.375 34,93	30.497 774,62	LDSL4	87530
30.312 769,92	2.500 63,50	30.500 774,70	LDSL3	87842
30.813 782,65	2.000 50,80	31.001 787,43	LDSL4	85039
31.812 808,02	2.500 63,50	32.000 812,80	LDSL4	90810
32.313 820,75	2.000 50,80	32.501 825,53	LDSL4	86090
32.812 833,42	2.220 56,39	33.000 838,20	LDSL4	87850
33.313 846,15	2.625 66,68	33.501 850,93	LDSL4	84730
34.312 871,52	1.750 44,45	34.500 876,30	LDSL4	87529
35.313 896,95	2.500 63,50	35.501 901,73	LDSL4	85814
35.812 909,62	1.500 38,10	36.000 914,40	LDSL4	90332
36.375 923,93	2.500 63,50	36.563 928,70	LDSL4	86111
36.813 935,05	2.500 63,50	37.001 939,83	LDSL4	86458
37.813 960,45	1.500 38,10	38.001 965,23	LDSL4	86973
38.000 965,20	1.500 38,10	38.188 969,98	LDSL4	86840
38.500 977,90	1.500 38,10	38.688 982,68	LDSL4	81753
38.813 985,85	2.125 53,98	39.001 990,63	LDSL4	85123
39.813 1011,25	2.125 53,98	40.001 1016,03	LDSL4	81826
41.312 1049,32	1.968 49,99	41.500 1054,10	LDSL4	89948
42.063 1068,40	2.125 53,98	42.251 1073,18	LDSL4	85038
42.125 1069,98	2.125 53,98	42.313 1074,75	LDSL4	87054
42.312 1074,72	1.250 31,75	42.500 1079,50	LDSL4	87379
42.500 1079,50	1.250 31,75	42.688 1084,28	LDSL4	87392