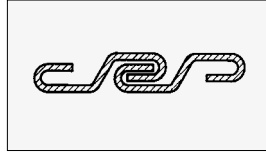
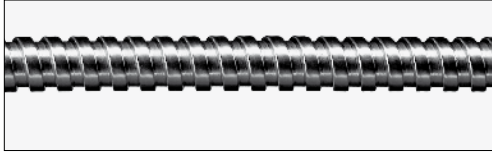


Protective hoses

to DIN EN ISO 15465

Type SA



Types:

SA-S-O
SA-E-O

Application:

- protective hose to DIN EN ISO 15465 (type DOU)
- protective hose with high mechanical strength for light conductors, measuring lines and electric cables
- protective hose for pressure hoses

Properties:

Resistant to torsion, flexible, extremely high tensile strength, high crushing strength

Design:

- stripwound metal hose
- engaged profile
- round cross-section

Materials:

- steel, galvanised (1.0330): up to DN 18
- steel, hot-dip galvanised (1.0226): DN 20 and above
- stainless steel (1.4301)

Versions:

Stainless steel with PVC or silicone coating

Operating temperature:

- galvanised steel: 400° C
- stainless steel: 600° C

Protective hoses

to DIN EN ISO 15465

Type SA

Production lengths:

- Measured in extended position
- Up to DN 9: max. 100 m;
 - DN 10 and above: max. 60 m
 - DN 15 and above: max. 50 m;
 - DN 26 and above: max. 40 m
 - DN 45 and above: max. 30 m;
 - DN 65 and above: max. 25 m

Supplied in the following forms:

On drums or as bundle

Order specifications:

- protective hose, galvanised steel
Type SA-S-O
- protective hose, stainless steel
Type SA-E-O

Protective hoses

to DIN EN ISO 15465

Galvanised steel, without seal

Type SA-S-O

| DN | Inside diameter | Outside diameter | Permissible tolerance | | Minimum bending radius | Weight approx. |
|----|-----------------|------------------|-----------------------|------|------------------------|----------------|
| | | | d | D | | |
| — | d | D | mm | mm | r _{min} | — |
| — | mm | mm | mm | mm | mm | kg/m |
| 4 | 4.0 | 6.1 | ±0.2 | ±0.2 | 35 | 0.155 |
| 5 | 5.0 | 7.1 | ±0.2 | ±0.2 | 35 | 0.160 |
| 6 | 6.0 | 8.2 | ±0.2 | ±0.4 | 35 | 0.085 |
| 7 | 7.0 | 9.2 | ±0.2 | ±0.4 | 40 | 0.095 |
| 8 | 8.0 | 10.2 | ±0.2 | ±0.4 | 45 | 0.110 |
| 9 | 9.0 | 11.2 | ±0.2 | ±0.4 | 50 | 0.120 |
| 10 | 10.0 | 12.2 | ±0.2 | ±0.4 | 55 | 0.130 |
| 11 | 11.0 | 13.2 | ±0.2 | ±0.4 | 60 | 0.145 |
| 12 | 12.0 | 14.2 | ±0.2 | ±0.4 | 65 | 0.155 |
| 13 | 13.0 | 15.2 | ±0.2 | ±0.4 | 70 | 0.170 |
| 14 | 14.0 | 16.8 | ±0.3 | ±0.4 | 80 | 0.225 |
| 15 | 14.5 | 17.3 | ±0.3 | ±0.4 | 83 | 0.250 |
| 15 | 15.0 | 17.8 | ±0.3 | ±0.4 | 85 | 0.240 |
| 16 | 16.0 | 18.8 | ±0.3 | ±0.4 | 90 | 0.250 |
| 18 | 18.0 | 20.8 | ±0.3 | ±0.4 | 95 | 0.280 |
| 19 | 19.0 | 21.8 | ±0.3 | ±0.4 | 98 | 0.320 |
| 20 | 20.0 | 22.8 | ±0.3 | ±0.4 | 100 | 0.310 |
| 23 | 23.0 | 25.8 | ±0.3 | ±0.4 | 125 | 0.355 |
| 25 | 25.0 | 28.3 | ±0.3 | ±0.5 | 135 | 0.480 |
| 28 | 28.0 | 31.3 | ±0.3 | ±0.5 | 150 | 0.540 |
| 30 | 30.0 | 33.3 | ±0.3 | ±0.5 | 155 | 0.575 |
| 32 | 32.0 | 35.3 | ±0.3 | ±0.5 | 170 | 0.615 |
| 35 | 35.0 | 38.3 | ±0.3 | ±0.5 | 185 | 0.670 |
| 36 | 36.0 | 39.3 | ±0.3 | ±0.5 | 185 | 0.685 |

Protective hoses

to DIN EN ISO 15465

Galvanised steel, without seal

Type SA-S-O

| DN | Inside diameter | Outside diameter | Permissible tolerance | | Minimum bending radius | Weight approx. |
|-----|-----------------|------------------|-----------------------|------|------------------------|----------------|
| | | | d | D | | |
| — | d | D | mm | mm | r _{min} | — |
| — | mm | mm | mm | mm | mm | kg/m |
| 40 | 40.0 | 44.4 | ±0.4 | ±0.6 | 210 | 0.935 |
| 45 | 45.0 | 49.4 | ±0.4 | ±0.6 | 240 | 1.100 |
| 50 | 50.0 | 54.4 | ±0.4 | ±0.6 | 260 | 1.160 |
| 54 | 54.0 | 58.4 | ±0.4 | ±0.6 | 270 | 1.300 |
| 55 | 55.0 | 59.4 | ±0.4 | ±0.6 | 270 | 1.330 |
| 60 | 60.0 | 66.0 | ±0.4 | ±0.6 | 310 | 1.870 |
| 65 | 65.0 | 71.0 | ±0.6 | ±0.6 | 315 | 2.020 |
| 70 | 70.0 | 76.0 | ±0.6 | ±0.6 | 325 | 2.180 |
| 75 | 75.0 | 81.0 | ±0.6 | ±0.6 | 345 | 2.340 |
| 80 | 80.0 | 86.0 | ±0.6 | ±0.6 | 370 | 2.500 |
| 85 | 85.0 | 91.0 | ±0.6 | ±0.6 | 385 | 2.650 |
| 90 | 90.0 | 98.0 | ±0.8 | ±0.6 | 400 | 2.800 |
| 100 | 100.0 | 108.0 | ±0.8 | ±0.6 | 440 | 3.120 |

Please quote when ordering: type of hose, nominal diameter (DN), length

Protective hoses

to DIN EN ISO 15465, stainless steel, without seal

Type SA-E-O

| DN | Inside diameter | Outside diameter | Permissible tolerance | | Minimum bending radius | Weight approx. |
|-----------|-----------------|------------------|-----------------------|------|------------------------|----------------|
| | | | d | D | | |
| — | d | D | mm | mm | r _{min} | — |
| — | mm | mm | mm | mm | mm | kg/m |
| 4 | 4.0 | 6.1 | ±0.2 | ±0.2 | 35 | 0.155 |
| 5 | 5.0 | 7.1 | ±0.2 | ±0.2 | 35 | 0.160 |
| 6 | 6.0 | 8.2 | ±0.2 | ±0.4 | 35 | 0.085 |
| 7 | 7.0 | 9.2 | ±0.2 | ±0.4 | 40 | 0.100 |
| 8 | 8.0 | 10.2 | ±0.2 | ±0.4 | 45 | 0.110 |
| 9 | 9.0 | 11.2 | ±0.2 | ±0.4 | 50 | 0.125 |
| 10 | 9.5 | 11.7 | ±0.2 | ±0.4 | 53 | 0.130 |
| 10 | 10.0 | 12.2 | ±0.2 | ±0.4 | 55 | 0.135 |
| 11 | 11.0 | 13.2 | ±0.2 | ±0.4 | 60 | 0.145 |
| 12 | 12.0 | 14.2 | ±0.2 | ±0.4 | 65 | 0.160 |
| 13 | 13.0 | 15.2 | ±0.2 | ±0.4 | 70 | 0.170 |
| 14 | 14.0 | 16.8 | ±0.3 | ±0.4 | 80 | 0.225 |
| 15 | 15.0 | 17.8 | ±0.3 | ±0.4 | 85 | 0.240 |
| 16 | 16.0 | 18.8 | ±0.3 | ±0.4 | 90 | 0.255 |
| 17 | 17.0 | 19.8 | ±0.3 | ±0.4 | 95 | 0.290 |
| 18 | 18.0 | 20.8 | ±0.3 | ±0.4 | 95 | 0.285 |
| 19 | 19.0 | 21.8 | ±0.3 | ±0.4 | 98 | 0.325 |
| 20 | 20.0 | 22.8 | ±0.3 | ±0.4 | 100 | 0.315 |
| 22 | 22.0 | 24.8 | ±0.3 | ±0.4 | 117 | 0.370 |
| 23 | 23.0 | 25.8 | ±0.3 | ±0.4 | 125 | 0.360 |
| 25 | 25.0 | 28.3 | ±0.3 | ±0.5 | 135 | 0.490 |
| 27 | 27.0 | 30.3 | ±0.3 | ±0.5 | 145 | 0.525 |
| 28 | 28.0 | 31.3 | ±0.3 | ±0.5 | 150 | 0.540 |
| 30 | 30.0 | 33.3 | ±0.3 | ±0.5 | 155 | 0.575 |

Protective hoses

to DIN EN ISO 15465, stainless steel, without seal

Type SA-E-O

| DN | Inside diameter | Outside diameter | Permissible tolerance | | Minimum bending radius | Weight approx. |
|------------|-----------------|------------------|-----------------------|------|------------------------|----------------|
| | | | d | D | | |
| — | d | D | mm | mm | r _{min} | — |
| — | mm | mm | mm | mm | mm | kg/m |
| 32 | 32.0 | 35.3 | ±0.3 | ±0.5 | 170 | 0.615 |
| 33 | 33.0 | 36.3 | ±0.3 | ±0.5 | 175 | 0.635 |
| 35 | 35.0 | 38.3 | ±0.3 | ±0.5 | 185 | 0.675 |
| 40 | 40.0 | 44.4 | ±0.4 | ±0.6 | 210 | 0.950 |
| 45 | 45.0 | 49.4 | ±0.4 | ±0.6 | 240 | 1.100 |
| 50 | 50.0 | 54.4 | ±0.4 | ±0.6 | 260 | 1.170 |
| 54 | 54.0 | 58.4 | ±0.4 | ±0.6 | 270 | 1.310 |
| 55 | 55.0 | 59.4 | ±0.4 | ±0.6 | 270 | 1.330 |
| 58 | 58.0 | 62.4 | ±0.4 | ±0.6 | 272 | 1.830 |
| 60 | 60.0 | 66.0 | ±0.6 | ±0.6 | 200 | 1.870 |
| 65 | 65.0 | 71.0 | ±0.6 | ±0.6 | 210 | 2.025 |
| 70 | 70.0 | 76.0 | ±0.6 | ±0.6 | 240 | 2.180 |
| 75 | 75.0 | 81.0 | ±0.6 | ±0.6 | 260 | 2.340 |
| 80 | 80.0 | 86.0 | ±0.6 | ±0.6 | 270 | 2.500 |
| 85 | 85.0 | 91.0 | ±0.6 | ±0.6 | 290 | 2.650 |
| 90 | 90.0 | 98.0 | ±0.8 | ±0.8 | 300 | 2.800 |
| 100 | 100.0 | 108.0 | ±0.8 | ±0.8 | 340 | 3.120 |

*VDE-compliant version. Please quote when ordering: type of hose, nominal diameter (DN), length