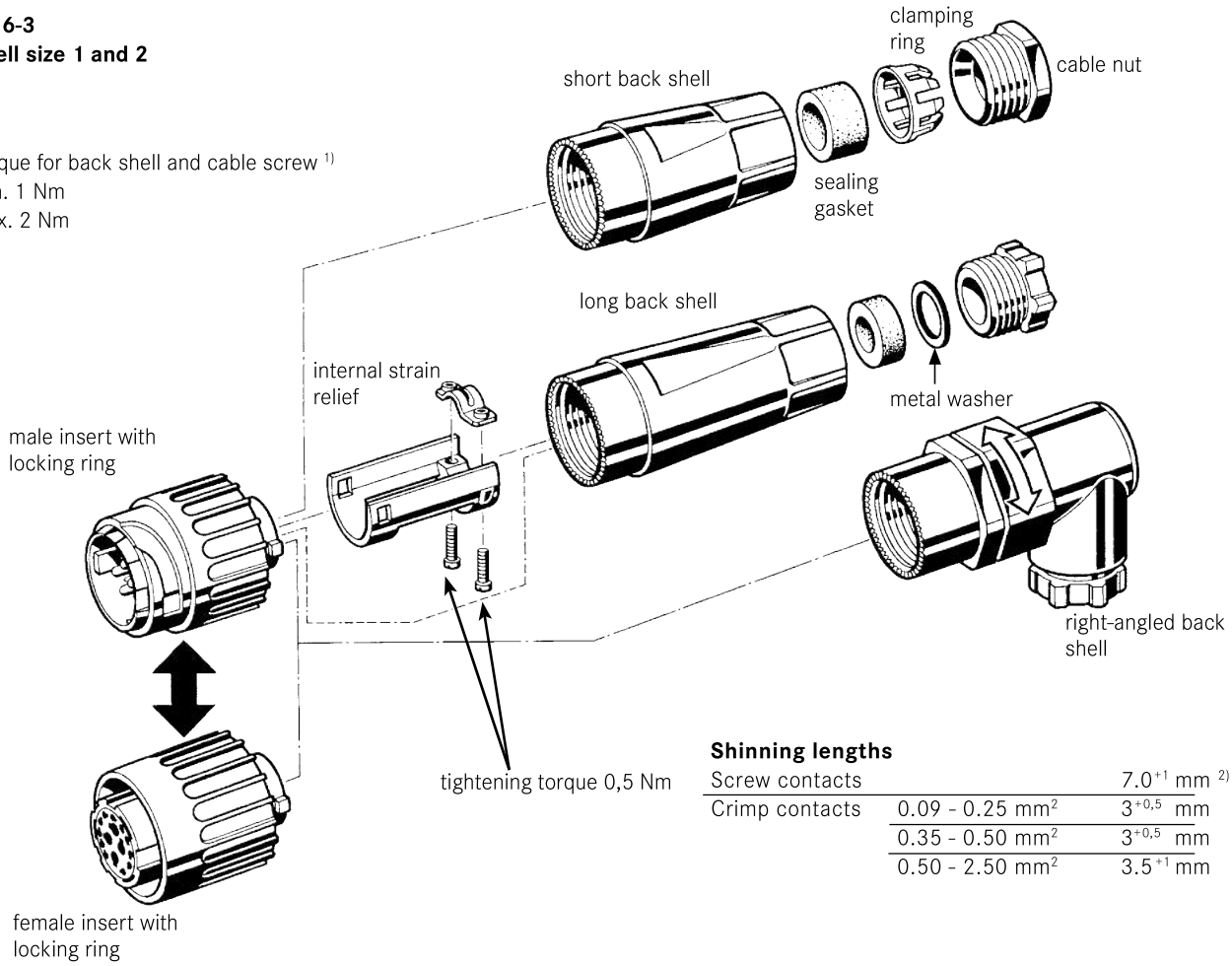
C 16-3
Shell size 1 and 2



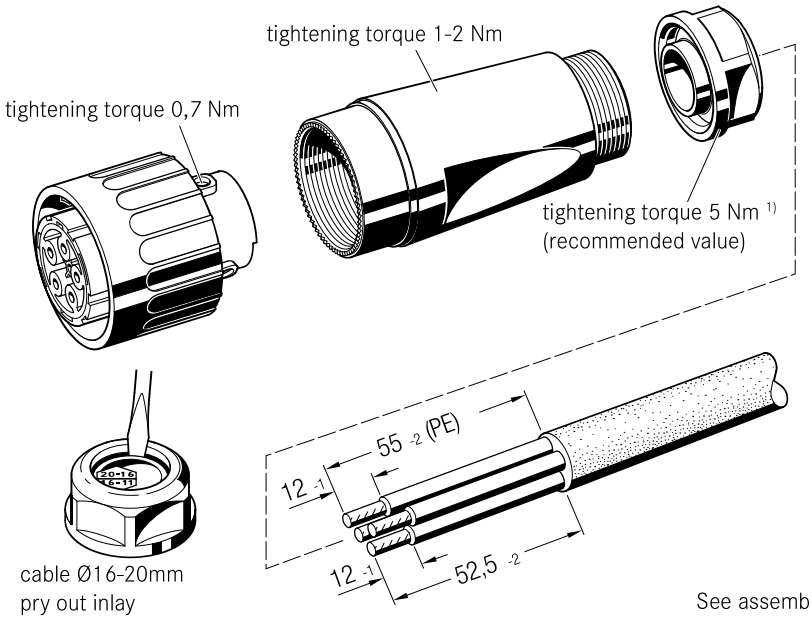
Torque for back shell and cable screw [1]
min. 1 Nm
max. 2 Nm

Shinning lengths

Screw contacts		7.0^{+1} mm [2]
Crimp contacts	0.09 - 0.25 mm²	$3^{+0,5}$ mm
	0.35 - 0.50 mm²	$3^{+0,5}$ mm
	0.50 - 2.50 mm²	3.5^{+1} mm

See assembling remarks on page 30.

C 16-L



See assembling remarks on page 30.

[1] The tightening torque are values that may vary depending on the cable.
[2] End splice recommended

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Termination methods

- **Screw connection**

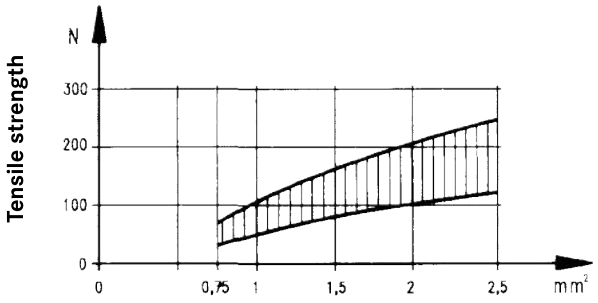
  Screw clamps are designed acc. to EN 60999-1 / VDE 609-1. Chart 1 below shows the screw size depending on wire size and the required clamping and testing torque..

Chart 1

Wire size (mm^2)	max.4
Screw size	M3
Test torque(Ncm)	50

Diagram 1 below shows the range of tensile strength for a screw connection with a clamp screw M3, fastened with a torque of 50 Ncm, depending on the wire size.

Diagram 1



Wire gauge

This comparison chart allows a cross reference between American Wire Gauge (AWG) and metric wire sizes (mm^2).

Chart 2

AWG	Wire Composition	Wire diameter	Wire size
30	1 x 0.25 7 x 0.10	0.25 mm 0.36 mm	0.05 mm^2 0.06 mm^2
28	1 x 0.32 7 x 0.13	0.32 mm 0.38 mm	0.08 mm^2 0.09 mm^2
26	1 x 0.40 7 x 0.16 19 x 0.10	0.40 mm 0.48 mm 0.51 mm	0.13 mm^2 0.14 mm^2 0.15 mm^2
24	1 x 0.51 7 x 0.20 19 x 0.13	0.51 mm 0.61 mm 0.64 mm	0.21 mm^2 0.23 mm^2 0.24 mm^2
22	1 x 0.64 7 x 0.25 19 x 0.16	0.64 mm 0.76 mm 0.81 mm	0.33 mm^2 0.36 mm^2 0.38 mm^2
20	1 x 0.81 7 x 0.32 19 x 0.20	0.81 mm 0.97 mm 1.02 mm	0.52 mm^2 0.56 mm^2 0.62 mm^2
18	1 x 1.02 19 x 0.25	1.02 mm 1.27 mm	0.79 mm^2 0.96 mm^2
16	19 x 0.29	1.44 mm	1.23 mm^2
14	19 x 0.36	1.80 mm	1.95 mm^2
12	19 x 0.46	2.29 mm	3.09 mm^2
10	37 x 0.40	3.10 mm	4.60 mm^2
8	133 x 0.29	4.0 mm	8.80 mm^2
6	133 x 0.36	5.5 mm	13.5 mm^2

It has to be noted that wires of the same AWG number but with different composition have slightly different mm^2.

Chart 3

Composition and Dimensions of Copper Wires

Wire Size	Wire Composition	Wire diameter
0.09 mm^2	12 x 0.10	0.48 mm
0.14 mm^2	18 x 0.10	0.50 mm
0.25 mm^2	14 x 0.15	0.70 mm
0.34 mm^2	7 x 0.25	0.78 mm
0.5 mm^2	16 x 0.20	1.0 mm
0.75 mm^2	24 x 0.20	1.2 mm
1.0 mm^2	32 x 0.20	1.4 mm
1.5 mm^2	30 x 0.25	1.6 mm
2.5 mm^2	35 x 0.30	2.2 mm
4.0 mm^2	56 x 0.30	2.8 mm
6.0 mm^2	19 x 0.64	3.4 mm
10 mm^2	19 x 0.80	4.3 mm

- **Crimp connection**
  A crimp connection is a non-detachable electrical connection between a wire and a crimp contact produced with the crimp technology. Precise crimping dies which are matched to the crimp barrel and the wire size and a defined deformation result in a reliable electrical connection.
  There are open crimp barrels (stamped contacts) and closed crimp barrels (turned contacts).

- Efficient termination of contacts.
- Reproducible termination achieve consistent electrical and mechanical results

The requirements for crimp connections are defined in DIN EN 60352-2, IEC 60352-2.

An important point of the quality of a crimp connection is the achieved tensile strength of the termination.
Easily measured, the tensile strength is a practible means for quality control purposes.
Diagram 2 below shows the required minimum tensile strength for open and closed barrels depending on the wire size.

Assembly instructions
For crimp contacts use the released crimp tool.

The insertion and extraction of crimp contacts shall only be approved with the corresponding insertion / extraction tool.

A detailed description of the crimp technology can be found in our crimp tooling catalogues.

Crimp contacts are in this catalogues on page 23/24.

Diagram 2