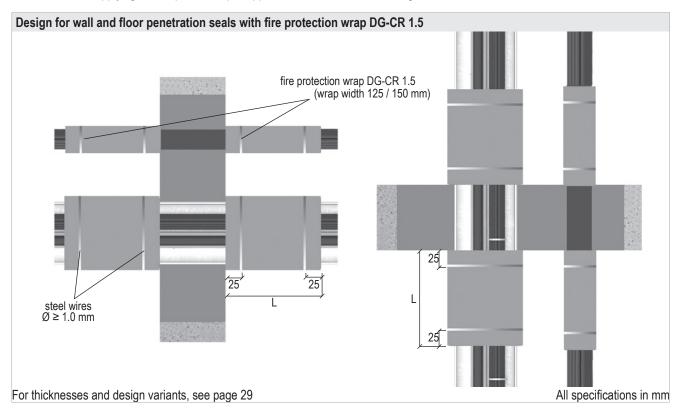


#### 8.1.1 Design variant with fire protection wrap DG-CR 1.5

The fire protection wrap DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.



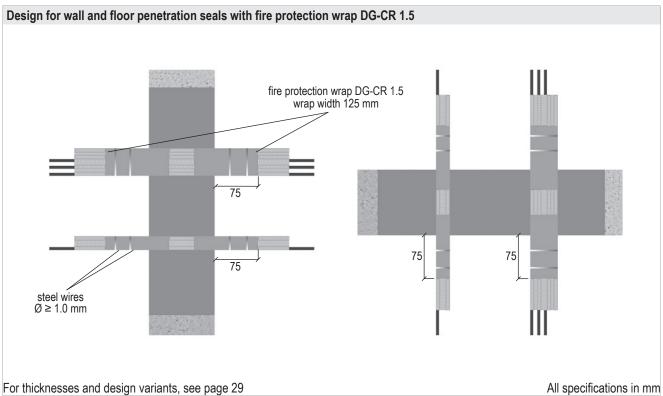
Service			Fire <sub> </sub>	Fire resistance class					
	Outer Ø [mm]	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	Wall	Floor
Cables	Ø ≤ 32	_	_	_	_	_	-	EI 120	El 120
	Ø ≤ 50	125		2	45–60	0	405	El 120	El 120
	Ø ≤ 80						125	El 90 / E 120	El 120
		150	2				150	El 120	El 120
Cable bundles	Ø ≤ 100	125		1			125	El 120	El 120

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#### Electrical installation conduits (EIC) - single or bundled 8.2

The fire protection wrap DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.



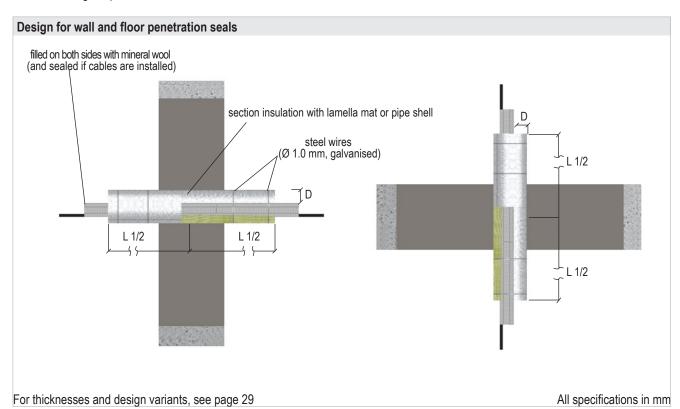
		Fire	Fire resistance class					
Outer Ø [mm]	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	Wall	Floor
EIC $\emptyset \le 32$ cables $\emptyset \le 21$	-	2	1	0	50		EI 120 U/U	EI 120 U/U
EIC $\emptyset \le 63$ cables $\emptyset \le 21$			2					
EIC $\emptyset \le 100$ cables $\emptyset \le 50$			3			75	-	
bundle $\emptyset \le 100$ EIC $\emptyset \le 32$ cables $\emptyset \le 21$			2				EI 120 U/U	
b	EIC $\emptyset \le 32$ cables $\emptyset \le 21$ EIC $\emptyset \le 63$ cables $\emptyset \le 21$ EIC $\emptyset \le 100$ cables $\emptyset \le 50$ and $\emptyset \le 100$ cables $\emptyset \le 32$	width [mm]  EIC $\emptyset \le 32$ cables $\emptyset \le 21$ EIC $\emptyset \le 63$ cables $\emptyset \le 21$ EIC $\emptyset \le 100$ cables $\emptyset \le 50$ Fundle $\emptyset \le 100$ cables $\emptyset \le 32$	width [mm] of wraps [n]  EIC $\emptyset \le 32$ cables $\emptyset \le 21$ EIC $\emptyset \le 63$ cables $\emptyset \le 21$ EIC $\emptyset \le 100$ cables $\emptyset \le 50$ Fundle $\emptyset \le 100$ cables $\emptyset \le 32$	width [mm]of wraps [n]of layers [n]EIC $\emptyset \le 32$ cables $\emptyset \le 21$ 1EIC $\emptyset \le 63$ cables $\emptyset \le 21$ 2EIC $\emptyset \le 100$ cables $\emptyset \le 50$ 125Fundle $\emptyset \le 100$ cables $\emptyset \le 32$ 2	width [mm] of wraps of layers [n] of layers [n] $= 1000 \times 32$ cables $\emptyset \le 21$ $= 1000 \times 32$	width [mm] of wraps [n] of layers [mm] width [mm] of wraps [n] of layers [n] of layers [mm] width [mm] width [mm] of wraps [n] of layers [n]	width [mm] of wraps [n] of layers [mm] width [mm] of wraps [n] of layers [n] of layers [mm] width [mm] width [mm] of wraps [n] of layers [mm] width [mm]	Outer Ø [mm]Wrap width [mm]Number of wraps [n]Number of layers [n]Overlap [mm]Inside seal [mm]Outside seal [mm]EIC Ø $\leq 32$ cables Ø $\leq 21$ 1EIC Ø $\leq 63$ cables Ø $\leq 21$ 2EIC Ø $\leq 100$ cables Ø $\leq 50$ 1252Oundle Ø $\leq 100$ cables Ø $\leq 32$ 2

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#### 8.2.1 Design variant with mineral fibre mats

It is possible to install EIC with (cable  $\emptyset \le 22.0$  mm) or without cables. The section insulation made of mineral wool must be fastened with tensioning straps or wires.

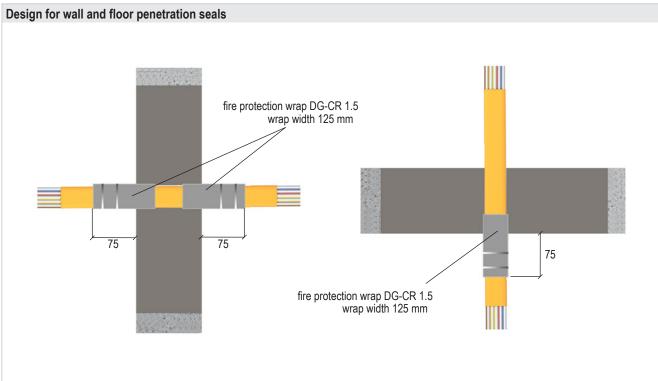


EIC material	EIC	Section i	nsulation	Fire resistance class		
	outer Ø [mm]	Thickness [mm]	Length L 1/2 [mm]	Wall	Floor	
PE-HD	≤ 63	≥ 30	≥ 500	EI 120 U/C	EI 120 U/C	

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- 8.3 speedpipes (PE pipes for optical fibre cables and micro cables)
- The speedpipes must be arranged vertically to the surface of the building element (pipe end configuration U/U).
- The speedpipes must be wrapped on both sides with the fire protection wrap DG-CR 1.5 (wrap width 125 mm).
- The fire protection wrap must be arranged in such a way that 50 mm are inside the seal.
- The fire protection wrap is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.



For thicknesses and design variants, see page 29

All specifications in mm

Wall									
Configuration	Pipe wall		Fire						
	thickness [mm]	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	resistance class	
Ø 7.0 mm × 24 pcs	≥ 1.5		2		0	50	75	EI 120 U/U	
Ø 10.0 mm × 7 pcs	≥ 2.0	125		1					
Ø 12.0 mm × 5 pcs	≥ 2.0								

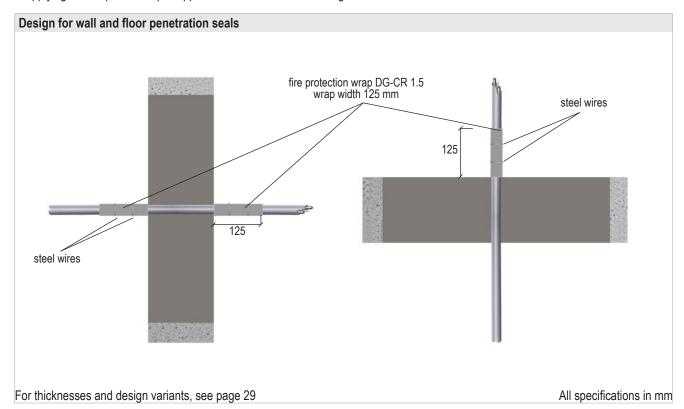
Floor									
Configuration	Pipe wall thickness [mm]		Fire						
		Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	resistance class	
Ø 7.0 mm × 24 pcs	≥ 1.5		1		0	50	75	EI 120 U/U	
Ø 10.0 mm × 7 pcs	≥ 2.0	125		2					
Ø 12.0 mm × 5 pcs	≥ 2.0								

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#### 8.8 Double solar pipes Nanosun<sup>2</sup>

- The double solar pipes must be installed at a right angle to the surface of the building element (pipe end configuration U/U).
- In walls the double solar pipes must be wrapped on both sides with the fire protection wrap DG-CR 1.5 (wrap width 125 mm). In floors the wrap must be applied on the upper side.
- The fire protection wrap DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.



Wall										
Pipe outer Ø [mm]		Fire								
	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	resistance class			
DN 16 – DN 25	125	2	1	≥ 40	0	125	EI 120 C/U			

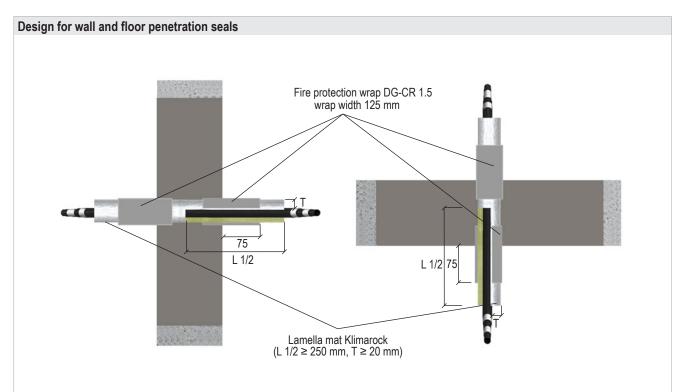
Floor									
Pipe outer Ø [mm]		Fire							
	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	resistance class		
DN 16 – DN 25	125	1 (upper side)	1	≥ 40	0	125	EI 120 C/U		

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#### 8.9 HANSA-FLEX AG hydraulic hoses with wire braid reinforcement

- The hoses must be installed at a right angle to the surface of the building element.
- The pipes must be wrapped with the lamella mat Klimarock in one layer centrally to the wall/floor axis in the seal (L 1/2 ≥ 250 mm, T ≥ 20 mm). The lamella mat must then be wrapped on each side with the fire protection wrap DG-CR 1.5 (wrap width 125 mm) with one layer without overlap.
- The fire protection wrap DG-CR 1.5 is coated on one side and equipped with a protective film. The film must be removed before applying the wrap. The wrap is applied with the coated side facing inwards and fastened with steel wires.
- The wrap (125 mm) must be applied in such a way that 50 mm are inside the seal.



For thicknesses and design variants, see page 29

All specifications in mm

Wall and floor											
Pipe outer Ø				Fire protection wrap DG-CR 1.5							
[mm]	Length L 1/2 [mm]	Thickness T [mm]	Wrap width [mm]	Number of wraps [n]	Number of layers [n]	Overlap [mm]	Inside seal [mm]	Outside seal [mm]	resistance class		
≤ 55.9	≥ 250 mm	≥ 20 mm	125	2	1	0	50	75	EI 120		

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