

PC-ABS

LOW SMOKE HALOGEN FREE

EN45545-2

SMARTNESS IN THE PANELS

Reasons to Choose Trunkie

- New** • **LSHF** Low Smoke Halogen Free Wiring Ducts Family.
- Upper scoreline provides easy breaking off the ribs as a result of 60° - 90° bending.
- Lower scoreline provides easy splitting of Wiring duct's base and wall.
- Special rib pattern design allows more proper wire placement.
- Wiring Duct covers hold securely even in a vertical position and under vibration.
- Trunkie helps you save time while breaking off ribs in group without using any tools.

IEC 60695-2-12

UL94-V0

PVC

EN50085-2-3

Halogen Free Wiring Ducts Application Areas

Preferred and applied in public areas, such as;



Hospitals



Schools



Railway
Industries



Subway **and** Highway
Tunnels



Laboratories



Shopping **Centers**



Cinema **and**
Theater Halls



Mining **Facilities**



Airport
Terminals



Hotels



Multistory **and**
High Buildings



Airplanes



Marine
Industries

HALOGEN FREE

Wiring Ducts

- Low Smoke
- Halogen Free
Zero Halogen
- Complying EN45545-2
for **Railway Industry**
(R22-R23, HL3)
- **Material: PC-ABS**



Flame-retardant,
self-extinguishing
according to **UL94-V0**

EN50085-2-3-approved

Colour:
Light Grey: RAL 7035

Temperature range from
-25 °C to +90 °C

1. Halogen Free For Highest Safety

Maximum reliability for sensitive environment



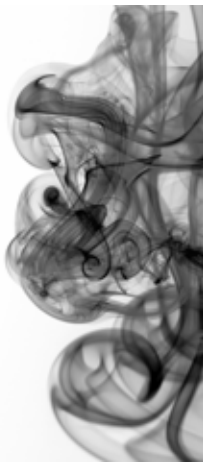
1.1 Why Low Smoke Halogen Free (LSHF) products? —

When PVC or other traditional plastics ignite in a fire, they emit **corrosive & toxic gases** like Chlorine. Moreover, these are soluble in moisture, forming Hydrochloric acid, which **destroy** electronics, semiconductors and intrinsic electrical circuits.

While smoke travels containing toxic element, it can be **fatally hazardous to humans** if **they cannot escape from that area**. Toxic fumes are not only a serious health risk but also cause serious damage and problems to crucial machineries.

1.2 The Difference Between PVC and PC/ABS —

dense
PVC generate
black smoke when it burns



PVC has long time been used as an appropriate cable insulation material with a high degree of flame-retardancy. However, in the event of a fire this will generate dense **black smoke**, with **toxic and corrosive gases** that can cause fatality and destruction.

✓ PC-ABS **succeeds** the Halogen Free tests and Low Smoke test.

Halogen Free wires and cables are already compulsory in many areas as they are safer. In the same way, Halogen Free Wiring Duct is most important within **enclosed spaces where the exits are limited**; such as Public Transport, Hospitals, Malls etc. What is the use of Halogen free cables if the wiring ducts contain dangerous material?

1.3 EN 45545-2 European Union Standard Fire Testing to Railway Components



KLEMSAN offers a wide range of Wiring Ducts in materials that are compliant with the smoke generation and toxicity requirements of the **EN 45545-2 European Railway Standard** for fire safety classes **R22 - R23** and Hazard Levels **HL1 - HL2 - HL3**.

Vehicles are classified as: HL1, HL2 or HL3, depending on their time in tunnels and whether they contain sleeper cars. The HL1 classification represents the lowest Hazard Level and HL3 represents the highest. Please refer to **EN 45545-2** for definitions.



1.4 LSHF Material Properties - PC/ABS Raw Material



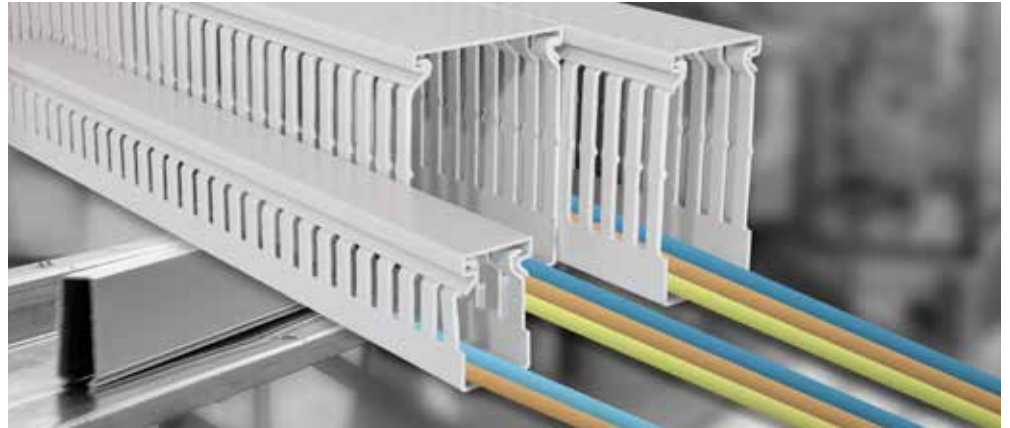
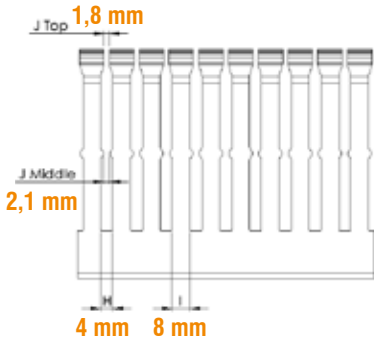
Our Halogen Free Wiring Ducts are made from a special purpose **LSHF** and flame retardant **PC/ABS** blend containing **NO Bromide, NO Chlorine** and **NO Fluorine**. It still offers high impact strength and excellent characteristics used for higher temperature applications. These are in compliance with **EN 45545-2 European Union Standard**. **LSHF** material also has characteristics of **self-extinguishing**, **UL94** flammability rating of **V-0**. It is **RoHS** compliant, environmentally safe and is 20% lighter than PVC. Our LSHF material is resistance to abnormal heat and fire. It has proven dimensional stability between **-25 °C / + 90 °C**. Also, the Halogen Free Wiring Ducts are manufactured in compliance with the Standard **EN 50085-2-3**. Ideal for application where public safety during a fire is a concern.



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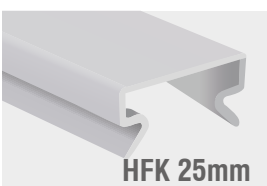
2. LSHF (Low Smoke Halogen Free) - Wiring Ducts



Order No	Product	Size WxH (mm)	Color	Qty.
540 010	KHF 2530 Wiring Duct	25X30	Grey ●	46x2 m
540 020	KHF 2540 Wiring Duct	25X40	Grey ●	50x2 m
540 030	KHF 2560 Wiring Duct	25X60	Grey ●	30x2 m
540 060	KHF 4040 Wiring Duct	40X40	Grey ●	24x2 m
540 070	KHF 4060 Wiring Duct	40X60	Grey ●	18x2 m
540 080	KHF 4080 Wiring Duct	40X80	Grey ●	20x2 m
540 100	KHF 6040 Wiring Duct	60X40	Grey ●	18x2 m
540 110	KHF 6060 Wiring Duct	60X60	Grey ●	12x2 m
540 120	KHF 6080 Wiring Duct	60X80	Grey ●	12x2 m
540 150	KHF 8060 Wiring Duct	80X60	Grey ●	14x2 m
540 160	KHF 8080 Wiring Duct	80X80	Grey ●	10x2 m

- Excellent fire-safety characteristics.
- Narrow slots suitable for small-diameter wires.
- Smooth, burr-free edges protect installers from injury and wires from damage.
- Ribs can be removed easily thanks to uppers scorlines.
- Lower scorline at base of sidewall allow cutting out and removing sections of sidewall with no sharp edges.
- Duct covers hold securely even in a vertical position and under vibration.

2.1 LSHF - Wiring Duct Covers



Order No	Product	Size (mm)	Color
540 600	HFK 25mm Wiring Duct Cover	25	Grey ●
540 610	HFK 40mm Wiring Duct Cover	40	Grey ●
540 620	HFK 60mm Wiring Duct Cover	60	Grey ●
540 630	HFK 80mm Wiring Duct Cover	80	Grey ●



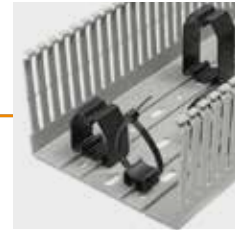
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3. Klemsan Trunkie Rigid PVC Wiring Ducts

3.1 Solutions Which Ease Wiring

- Now wire management is much easier.
- You can easily mount wire retainers on the bottom rail of the duct without screw and slide them along the rail.



3.2 Durable and Reliable

- Assembly and disassembly of the covers is the most difficult operation when ducts are fully wired, design of Trunkie speeds up your work.
- Trunkie enables the customer to use the maximum inner space of the duct and keeps the rigidity even at maximum load of cables.



3.3 Appearance

- Special rib pattern allows the end-user to make cable grouping easier.



3.4 Speed and Efficiency

- Furthermore, Trunkie helps you save time while breaking off ribs in groups.
- Without using any hand tools,

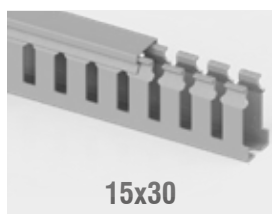
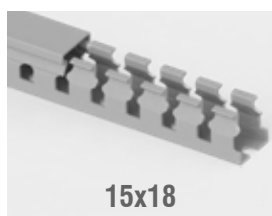
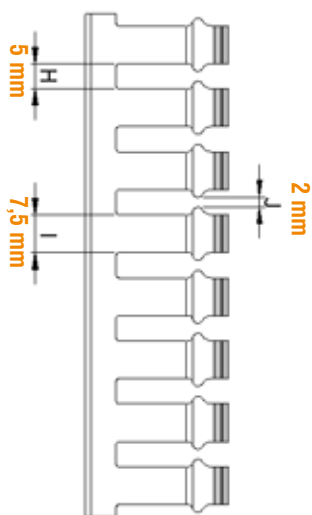
simply bend the duct

ribs to 60° - 90° and easily break them inside the panel.



4. PVC Wiring Ducts Product Range

4.1 Medium Slotted



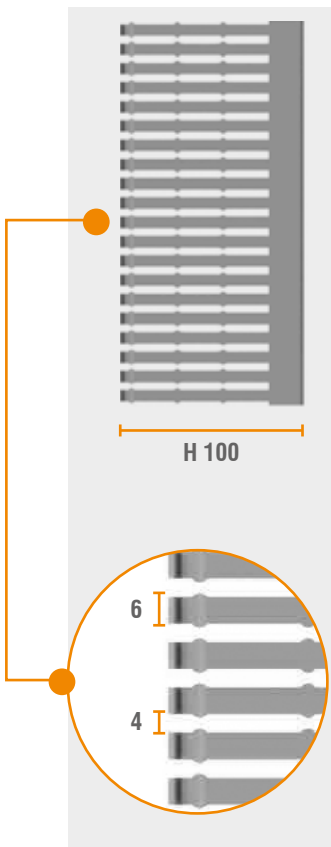
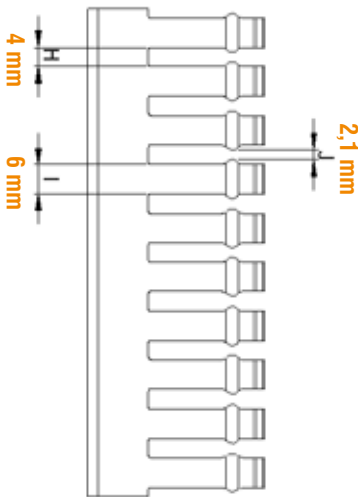
Self-adhesive

Order No	Product	Size WxH (mm)	Color	Qty.
551 060YP	KKC 1518	15x18	Grey ●	122x2 m
551 070YP	KKC 1530	15x30	Grey ●	104x2 m
551 080YP	KKC 1540	15x40	Grey ●	80x2 m
551 090YP	KKC 1560	15x60	Grey ●	42x2 m
551 060	KKC 1518	15x18	Grey ●	126x2 m
551 070	KKC 1530	15x30	Grey ●	106x2 m
551 080	KKC 1540	15x40	Grey ●	80x2 m
551 090	KKC 1560	15x60	Grey ●	42x2 m

- No lower scorline available for this range.
- Upper scorline for breaking off the ribs.
- **Operating Temperature:** -5°C to 60°C
- **Standard Length:** 2 meters
- **Color Option:** RAL 7030 Grey
- Complies with RoHS regulations.
- Complies with IEC 60695-2-1 and EN 50085-2-3 standards

4. PVC Wiring Ducts Product Range

4.2 Narrow Slotted

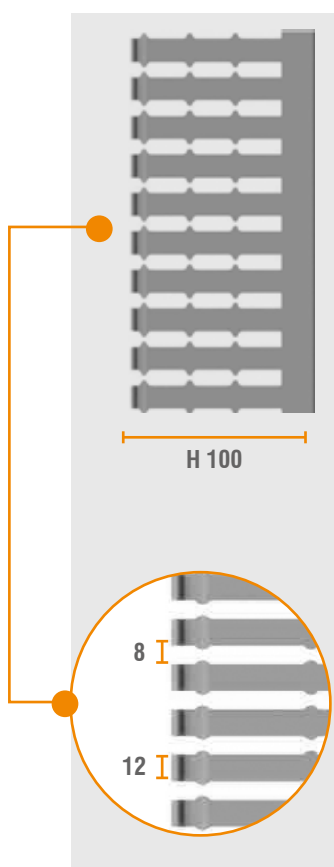
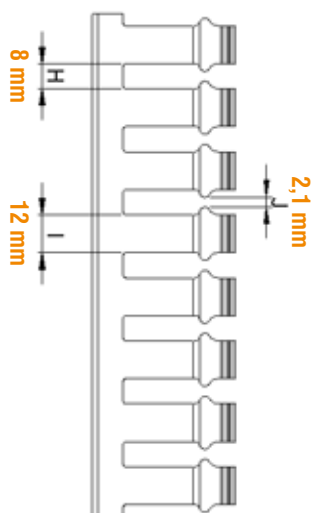


Order No	Product	Size WxH (mm)	Color	Qty.
551 010	KKC 2530	25x30	Grey ●	50x2 m
551 011	KKC 2540	25x40	Grey ●	50x2 m
551 012	KKC 2560	25x60	Grey ●	30x2 m
551 030	KKC 2580	25x80	Grey ●	28x2 m
551 031	KKC 2510	25x100	Grey ●	22x2 m
551 013	KKC 4040	40x40	Grey ●	26x2 m
551 014	KKC 4060	40x60	Grey ●	18x2 m
551 015	KKC 4080	40x80	Grey ●	20x2 m
551 032	KKC 4010	40x100	Grey ●	14x2 m
551 016	KKC 6040	60x40	Grey ●	18x2 m
551 017	KKC 6060	60x60	Grey ●	12x2 m
551 018	KKC 6080	60x80	Grey ●	12x2 m
551 033	KKC 6010	60x100	Grey ●	18x2 m
551 034	KKC 8040	80x40	Grey ●	18x2 m
551 019	KKC 8060	80x60	Grey ●	14x2 m
551 020	KKC 8080	80x80	Grey ●	10x2 m
551 035	KKC 8010	80x100	Grey ●	12x2 m
551 021	KKC 1006	100x60	Grey ●	10x2 m
551 022	KKC 1008	100x80	Grey ●	8x2 m
551 036	KKC 1001	100x100	Grey ●	12x2 m
551 023	KKC 1206	120x60	Grey ●	8x2 m
551 024	KKC 1208	120x80	Grey ●	6x2 m
551 025	KKC 1201	120x100	Grey ●	10x2 m
551 040	KKC 1501	150x100	Grey ●	8x2 m

- Upper scorline for breaking off the ribs.
- Lower scorline is available.
- **Operating Temperature:** -5°C to 60°C
- **Standard Length:** 2 meters
- **Color Option:** RAL 7030 Grey
- Complies with RoHS regulations.
- Complies with IEC 60695-2-12 and EN 50085-2-3 standards.

4. PVC Wiring Ducts Product Range

4.3 Wide Slotted



Order No	Product	Size WxH (mm)	Color	Qty.
551 014WS	KKC 4060	40x60	Grey ●	18x2 m
551 015WS	KKC 4080	40x80	Grey ●	20x2 m
551 032WS	KKC 4010	40x100	Grey ●	14x2 m
551 017WS	KKC 6060	60x60	Grey ●	12x2 m
551 018WS	KKC 6080	60x80	Grey ●	12x2 m
551 033WS	KKC 6010	60x100	Grey ●	18x2 m
551 019WS	KKC 8060	80x60	Grey ●	14x2 m
551 020WS	KKC 8080	80x80	Grey ●	10x2 m
551 035WS	KKC 8010	80x100	Grey ●	12x2 m
551 021WS	KKC 1006	100x60	Grey ●	10x2 m
551 022WS	KKC 1008	100x80	Grey ●	8x2 m
551 036WS	KKC 1001	100x100	Grey ●	12x2 m
551 023WS	KKC 1206	120x60	Grey ●	8x2 m
551 024WS	KKC 1208	120x80	Grey ●	6x2 m
551 025WS	KKC 1201	120x100	Grey ●	10x2 m
551 040WS	KKC 1501	150x100	Grey ●	8x2 m

- Upper scorline for breaking off the ribs.
- Lower scorline is available.
- **Operating Temperature:** -5°C to 60°C
- **Standard Length:** 2 meters
- **Color Option:** RAL 7030 Grey
- Complies with RoHS regulations.
- Complies with IEC 60695-2-1 and EN 50085-2-3 standards.

4. PVC Wiring Ducts Product Range

4.4 Wiring Ducts Covers

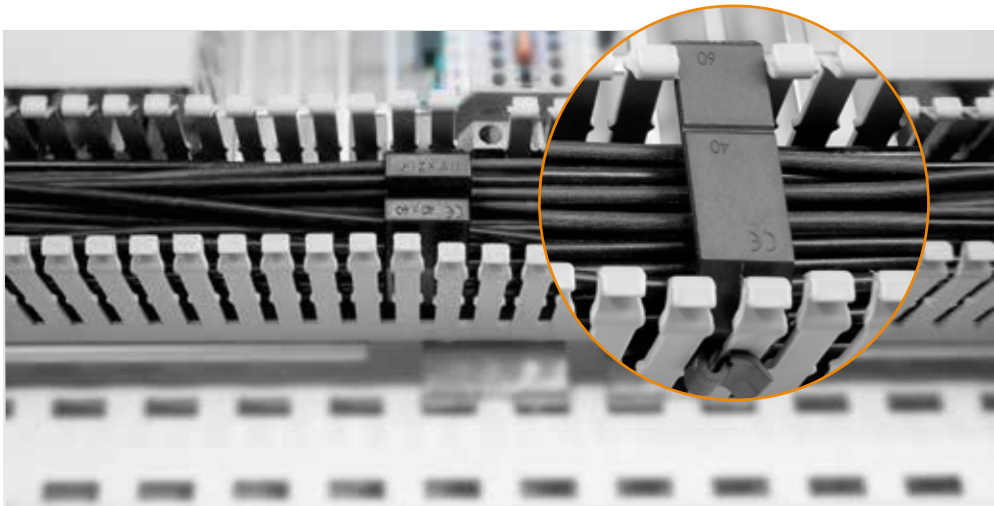


Order No	Product	Size (mm)	Color	Description	Qty.
551 049	KKK 15	15	Grey	● KKK 15 mm Wiring Duct Cover	10x2 m
551 050	KKK 25	25	Grey	● KKK 25 mm Wiring Duct Cover	10x2 m
551 051	KKK 40	40	Grey	● KKK 40 mm Wiring Duct Cover	10x2 m
551 052	KKK 60	60	Grey	● KKK 60 mm Wiring Duct Cover	10x2 m
551 053	KKK 80	80	Grey	● KKK 80 mm Wiring Duct Cover	10x2 m
551 054	KKK 100	100	Grey	● KKK 100 mm Wiring Duct Cover	10x2 m
551 055	KKK 120	120	Grey	● KKK 120 mm Wiring Duct Cover	10x2 m
551 056	KKK 150	150	Grey	● KKK 150 mm Wiring Duct Cover	10x2 m



4. PVC Wiring Ducts Product Range

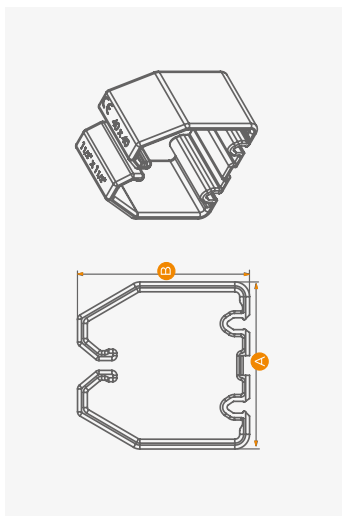
4.5 Wiring Duct Accessories



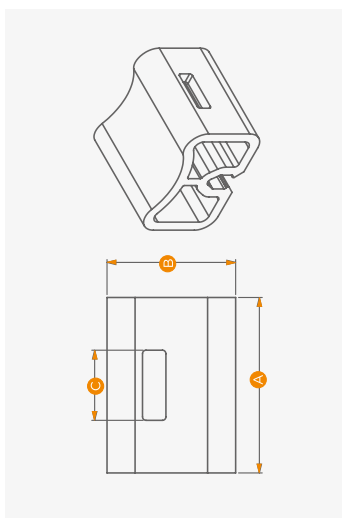
Order No	Product	Color		Description	Qty.
553 315	KKT 4040	Black	●	Wire Retainer	10
553 325	KKT 4060	Black	●	Wire Retainer	10
553 335	KKT 6080	Black	●	Wire Retainer	10
553 345	KKT 4080	Black	●	Wire Retainer	10
553 355	KKT 6040	Black	●	Wire Retainer	10
553 365	KKT 6060	Black	●	Wire Retainer	10
553 375	KKT 6010	Black	●	Wire Retainer	10
553 385	KKT 8060	Black	●	Wire Retainer	10
553 395	KKT 1006	Black	●	Wire Retainer	10
553 425	KKT 1206	Black	●	Wire Retainer	10
553 435	KKT 8080	Black	●	Wire Retainer	10
553 445	KKT 8010	Black	●	Wire Retainer	10
553 455	KKT 1008	Black	●	Wire Retainer	10
553 465	KKT 1001	Black	●	Wire Retainer	10
553 475	KKT 1208	Black	●	Wire Retainer	10
553 485	KKT 1201	Black	●	Wire Retainer	10
553 500	SETR	-	○	Setting Tool for Rivets	1
553 600	PPE 6.5	Grey	●	Rivets	100
553 405	KKB	Black	●	Cable Clamp	10
553 415	KKM	Black	●	Cable Holder	10

4.7 Technical Specifications

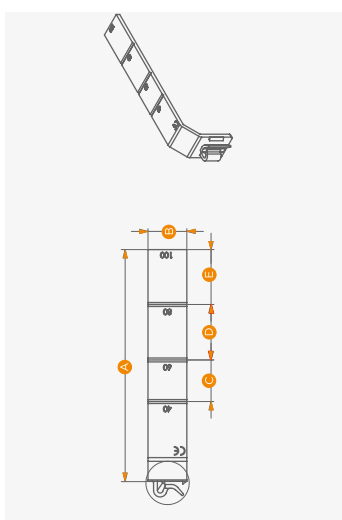
Wire Retainer



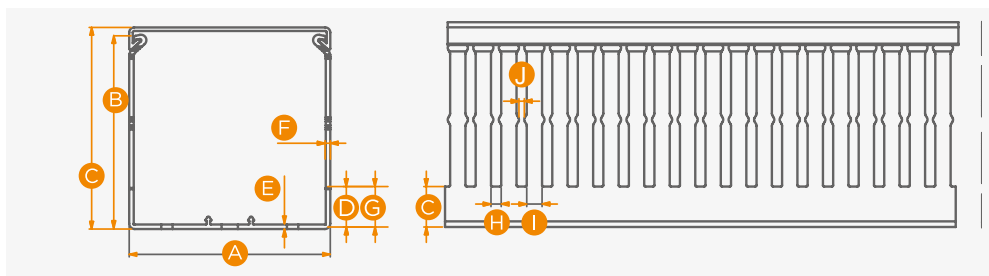
Cable Clamp



Cable Holder



Wiring Duct



Order No.	Type	Description	Size (mm)									
			A	B	C	D	E	F	G	H	I	J
551 060	KKC 1518 - Medium	Wiring Duct	15	16,3	18	3,50	1,00	1,00	4,50	5	7,5	2
551 070	KKC 1530 - Medium	Wiring Duct	15	28,3	30	5,00	1,10	1,10	6,10	5	7,5	2
551 080	KKC 1540 - Medium	Wiring Duct	15	38,3	40	9,00	1,20	1,20	10,20	5	7,5	2
551 090	KKC 1560 - Medium	Wiring Duct	15	58,3	60	11,00	1,40	1,40	12,40	5	7,5	2
551 010	KKC 2530 - Narrow	Wiring Duct	25	26,4	30	10,00	1,40	1,40	11,40	4	6	2,1
551 011	KKC 2540 - Narrow	Wiring Duct	25	36,2	40	11,00	1,40	1,40	12,40	4	6	2,1
551 012	KKC 2560 - Narrow	Wiring Duct	25	56,4	60	12,00	1,60	1,60	13,60	4	6	2,1
551 030	KKC 2580 - Narrow	Wiring Duct	25	76,8	80	14,00	1,80	1,80	15,80	4	6	2,1
551 031	KKC 2510 - Narrow	Wiring Duct	25	96,6	100	16,00	1,90	1,90	17,90	4	6	2,1
551 013	KKC 4040 - Narrow	Wiring Duct	40	36,5	40	11,00	1,40	1,40	12,40	4	6	2,1
551 014	KKC 4060 - Narrow	Wiring Duct	40	56,5	60	12,00	1,60	1,60	13,60	4	6	2,1
551 015	KKC 4080 - Narrow	Wiring Duct	40	76,8	80	14,00	1,80	1,80	15,80	4	6	2,1
551 032	KKC 4010 - Narrow	Wiring Duct	40	96,9	100	16,00	1,90	2,00	17,90	4	6	2,1
551 016	KKC 6040 - Narrow	Wiring Duct	60	36,8	40	11,00	1,60	1,60	12,60	4	6	2,1
551 017	KKC 6060 - Narrow	Wiring Duct	60	56,8	60	12,00	1,80	1,80	13,80	4	6	2,1
551 018	KKC 6080 - Narrow	Wiring Duct	60	76,7	80	14,00	1,80	1,80	15,80	4	6	2,1
551 033	KKC 6010 - Narrow	Wiring Duct	60	96,9	100	16,00	2,00	2,00	18,00	4	6	2,1
551 034	KKC 8040 - Narrow	Wiring Duct	80	36,8	40	11,00	1,60	1,60	12,60	4	6	2,1
551 019	KKC 8060 - Narrow	Wiring Duct	80	57,0	60	12,00	1,80	1,80	13,80	4	6	2,1
551 020	KKC 8080 - Narrow	Wiring Duct	80	77,1	80	14,00	1,80	1,80	15,80	4	6	2,1
551 035	KKC 8010 - Narrow	Wiring Duct	80	97,2	100	16,00	2,20	2,20	18,20	4	6	2,1
551 021	KKC 1006 - Narrow	Wiring Duct	100	57,3	60	12,00	2,00	2,00	14,00	4	6	2,1
551 022	KKC 1008 - Narrow	Wiring Duct	100	77,2	80	14,00	2,00	2,00	16,00	4	6	2,1
551 036	KKC 1001 - Narrow	Wiring Duct	100	97,2	100	16,00	2,20	2,30	18,20	4	6	2,1
551 023	KKC 1206 - Narrow	Wiring Duct	120	57,6	60	12,00	2,30	2,00	14,30	4	6	2,1
551 024	KKC 1208 - Narrow	Wiring Duct	120	77,5	80	14,00	2,30	2,00	16,30	4	6	2,1
551 025	KKC 1201 - Narrow	Wiring Duct	120	97,5	100	16,00	2,40	2,40	18,40	4	6	2,1
551 040	KKC 1501 - Narrow	Wiring Duct	150	98,1	100	16,00	2,70	2,70	18,70	4	6	2,1

4.7 Technical Specifications



Order No.	Type	Description	Size (mm)									
			A	B	C	D	E	F	G	H	I	J
551 014WS	KKC 4060 - Wide	Wiring Duct	40	56,5	60	12,00	1,60	1,60	13,60	8	12	2,1
551 015WS	KKC 4080 - Wide	Wiring Duct	40	76,8	80	14,00	1,80	1,80	15,80	8	12	2,1
551 032WS	KKC 4010 - Wide	Wiring Duct	40	96,9	100	16,00	1,90	2,00	17,90	8	12	2,1
551 017WS	KKC 6060 - Wide	Wiring Duct	60	56,8	60	12,00	1,80	1,80	13,80	8	12	2,1
551 018WS	KKC 6080 - Wide	Wiring Duct	60	76,7	80	14,00	1,80	1,80	15,80	8	12	2,1
551 033WS	KKC 6010 - Wide	Wiring Duct	60	96,9	100	16,00	2,00	2,00	18,00	8	12	2,1
551 019WS	KKC 8060 - Wide	Wiring Duct	80	57,0	60	12,00	1,80	1,80	13,80	8	12	2,1
551 020WS	KKC 8080 - Wide	Wiring Duct	80	77,1	80	14,00	1,80	1,80	15,80	8	12	2,1
551 035WS	KKC 8010 - Wide	Wiring Duct	80	97,2	100	16,00	2,20	2,20	18,20	8	12	2,1
551 021WS	KKC 1006 - Wide	Wiring Duct	100	57,3	60	12,00	2,00	2,00	14,00	8	12	2,1
551 022WS	KKC 1008 - Wide	Wiring Duct	100	77,2	80	14,00	2,00	2,00	16,00	8	12	2,1
551 036WS	KKC 1001 - Wide	Wiring Duct	100	97,2	100	16,00	2,20	2,30	18,20	8	12	2,1
551 023WS	KKC 1206 - Wide	Wiring Duct	120	57,6	60	12,00	2,30	2,00	14,30	8	12	2,1
551 024WS	KKC 1208 - Wide	Wiring Duct	120	77,5	80	14,00	2,30	2,00	16,30	8	12	2,1
551 025WS	KKC 1201 - Wide	Wiring Duct	120	97,5	100	16,00	2,40	2,40	18,40	8	12	2,1
551 040WS	KKC 1501 - Wide	Wiring Duct	150	98,1	100	16,00	2,70	2,70	18,70	8	12	2,1
540 010	KHF 2530	HF Wiring Duct	25	26,6	30	8,00	1,55	1,55	9,55	4	8	Top 1,8 - Middle 2,1
540 020	KHF 2540	HF Wiring Duct	25	36,8	40	10,00	1,60	1,60	11,60	4	8	
540 030	KHF 2560	HF Wiring Duct	25	56,8	60	12,00	1,60	1,60	13,60	4	8	
540 060	KHF 4040	HF Wiring Duct	40	36,9	40	10,00	1,60	1,60	11,60	4	8	
540 070	KHF 4060	HF Wiring Duct	40	56,9	60	12,00	1,60	1,60	13,60	4	8	
540 080	KHF 4080	HF Wiring Duct	40	76,9	80	14,00	1,80	1,80	15,80	4	8	
540 100	KHF 6040	HF Wiring Duct	60	37,0	40	10,00	1,60	1,60	11,60	4	8	
540 110	KHF 6060	HF Wiring Duct	60	57,1	60	12,00	1,80	1,80	13,80	4	8	
540 120	KHF 6080	HF Wiring Duct	60	77,1	80	14,00	1,90	1,90	15,90	4	8	
540 150	KHF 8060	HF Wiring Duct	80	57,1	60	12,00	1,80	1,80	13,80	4	8	
540 160	KHF 8080	HF Wiring Duct	80	77,1	80	14,00	2,00	2,00	16,00	4	8	



Low Smoke Halogen Free

4.7 Technical Specifications



KKT 1001



KKT 1006



KKT 6040



KKB



KKT 1208



KKT 4080



KKT 4060

Order No.	Type	Description	Size (mm)									
			A	B	C	D	E	F	G	H	G	H
553 315	KKT 4040	Wire Retainer	34	35	--	--	--	--	--	--	--	--
553 325	KKT 4060	Wire Retainer	34	53	--	--	--	--	--	--	--	--
553 335	KKT 6080	Wire Retainer	53	75	--	--	--	--	--	--	--	--
553 345	KKT 4080	Wire Retainer	34	75	--	--	--	--	--	--	--	--
553 355	KKT 6040T	Wire Retainer	53	35	--	--	--	--	--	--	--	--
553 365	KKT 6060	Wire Retainer	53	53	--	--	--	--	--	--	--	--
553 375	KKT 6010	Wire Retainer	53	95	--	--	--	--	--	--	--	--
553 385	KKT 8060	Wire Retainer	73	53	--	--	--	--	--	--	--	--
553 395	KKT 1006	Wire Retainer	93	53	--	--	--	--	--	--	--	--
553 425	KKT 1206	Wire Retainer	113	53	--	--	--	--	--	--	--	--
553 435	KKT 8080	Wire Retainer	73	75	--	--	--	--	--	--	--	--
553 445	KKT 8010	Wire Retainer	73	95	--	--	--	--	--	--	--	--
553 455	KKT 1008	Wire Retainer	93	75	--	--	--	--	--	--	--	--
553 465	KKT 1001	Wire Retainer	93	95	--	--	--	--	--	--	--	--
553 475	KKT 1208	Wire Retainer	113	75	--	--	--	--	--	--	--	--
553 485	KKT 1201	Wire Retainer	113	95	--	--	--	--	--	--	--	--
553 405	KKB	Cable Clamp	15	11	6	--	--	--	--	--	--	--
553 415	KKM	Cable Holder	83,6	14	15	20	19,8	--	--	--	--	--

