

Wiring Duct Product Selection Guide

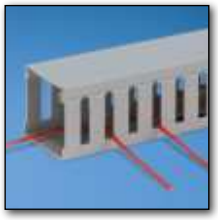
Organize • Connect • Protect

PANDUIT®

infrastructure for a connected world

Comprehensive Wiring Duct Solutions

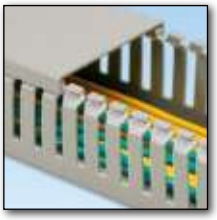
PVC Flush Cover Wiring Duct



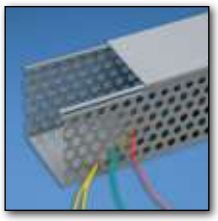
Type G, Wide Slots, Wide Fingers



Type F, Narrow Slots, Narrow Fingers



Type MC, Narrow Slots, Narrow Fingers, Metric



Type D, Round Holes

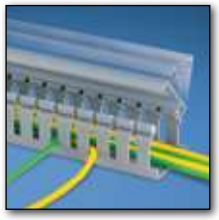


Type FS, Solid Wall

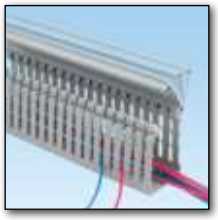


Type C Covers for Type F, G, D, FS, and MC Wiring Duct

PVC Hinged Cover Wiring Duct



Type H, Hinged Cover, Wide Slots



Type HN, Hinged Cover, Narrow Slots

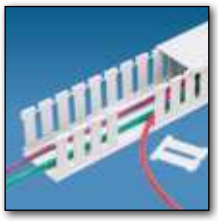


Type HS, Hinged Cover, Solid Wall



Type HC Covers for Type HN, H, and HS Wiring Duct

Halogen-Free Wiring Duct



Type NE, Halogen-Free, Wide Slots



Type NNC, Halogen-Free, Wide Slots, Metric



Type NC Covers for Type NE and NNC Wiring Duct

Low-Smoke, Halogen-Free Wiring Duct



Type TNC, Low Smoke, Halogen-Free, Wide Slots, Metric



Type TNC Covers for Type TNC Wiring Duct

PanelMax™ Space Optimization and Noise Mitigation Products



Type DRD, DIN Rail Wiring Duct*



Type CWD, Corner Wiring Duct (use 2" Type C Cover)



Shielded Wiring Duct



EMI Noise Shield

These wiring duct types are sold base and cover separately: G, F, D, FS, HN, H, HS, NE, CWD, and Shielded.
These wiring duct types are sold base and cover together: DRD, NNC, TNC, and MC.
*DIN Rail not included.

Wiring Duct Available Colors and Sizes

Duct Size W x H		LG Light Gray												WH White												BL Black						IB Intrs. Blue+		IG Intl. Gray
In.	mm																																	
.5 x .5	12 x 12	G	F	FS						FL				G	F	FS		NE																
.5 x 1		G	F	FS										G	F			NE																
.5 x 2		G												G																				
.75 x .75		G	F	FS										G	F																			
.75 x 1		G												G																				
.75 x 1.5		G	F											G	F																			
.75 x 2		G												G												G								
1 x 1	25 x 25	G	F	FS					NNC	FL				G	F	FS		NE				NNC				G	F	FS				G	F	MC
1 x 1.5	25 x 37	G	F	FS					NNC		TNC			G	F			NE				NNC				G	F					G	F	MC
1 x 2	25 x 50	G	F	FS	D				NNC					G	F			NE				NNC	MC			G	F		D			G	F	MC
1 x 2.5	25 x 62																						MC											MC
1 x 3	25 x 75	G	F	FS	D				NNC		TNC			G	F		D	NE				NNC	MC			G	F		D			G	F	MC
1 x 4	25 x 100	G	F	FS	D									G	F		D	NE								G	F		D			G	F	
1.5 x 1		G	F	FS										G	F	FS																		
1.5 x 1.5	37 x 37	G	F	FS					NNC		TNC			G	F	FS		NE				NNC	MC			G	F	FS				G	F	MC
1.5 x 2	37 x 50	G	F	FS	D	H	HN	HS	NNC					G	F			NE	H	HN	HS	NNC	MC			G	F		D	H	HS	G	F	MC
1.5 x 2.5	37 x 62																						MC											MC
1.5 x 3	37 x 75	G	F	FS	D	H	HN	HS	NNC		TNC			G	F		D	NE	H	HN	HS	NNC	MC			G	F		D	H	HS	G	F	MC
1.5 x 4		G	F		D									G	F		D	NE								G	F		D			G	F	
2 x 1		G	F	FS										G	F	FS		NE								G	F							
2 x 1.5		G	F	FS										G	F	FS																		
2 x 2	50 x 50	G	F	FS	D	H	HN	HS	NNC	FL	TNC			G	F	FS	D	NE	H	HN	HS	NNC	MC			G	F	FS	D	H	HS	G	F	MC
2 x 3	50 x 75	G	F	FS	D	H	HN	HS	NNC					G	F	FS	D	NE	H	HN	HS	NNC	MC			G	F		D	H	HS	G	F	MC
2 x 4	50 x 100	G	F	FS	D	H	HN	HS	NNC					G	F		D	NE	H	HN	HS	NNC	MC			G	F		D	H	HS	G	F	MC
2 x 5		G	F											G	F																	G		
2.5 x 2.5	62 x 62																						MC											MC
2.5 x 3		G	F		D									G	F											G								
3 x 1		G	F	FS										G	F	FS		NE																
3 x 2	75 x 50	G	F	FS	D									G	F	FS		NE					MC			G	F	FS				G		MC
3 x 2.5	75 x 62																						MC											MC
3 x 3	75 x 75	G	F	FS	D	H	HN	HS	NNC		TNC			G	F	FS	D	NE	H	HN	HS	NNC	MC			G	F	FS	D	H	HS	G	F	MC
3 x 4	75 x 100	G	F	FS	D	H	HN	HS						G	F	FS	D	NE	H	HN	HS		MC			G	F		D	H	HS	G	F	MC
3 x 5		G	F	FS										G	F	FS		NE								G	F					G		
4 x 1.5		G		FS										G																				
4 x 2	100 x 50	G	F	FS	D				NNC		TNC			G	F	FS		NE				NNC	MC			G	F		D			G		MC
4 x 3	100 x 75	G	F	FS	D				NNC		TNC			G	F	FS		NE				NNC	MC			G	F					G	F	MC
4 x 4	100 x 100	G	F	FS	D	H	HN	HS	NNC					G	F	FS	D	NE	H	HN	HS	NNC	MC			G	F	FS	D	H	HS	G	F	MC
4 x 5		G	F	FS										G	F			NE								G	F					G		
6 x 4		G	F	FS										G	F	FS																		
3.35 x 2.54*	85.0 x 64.4											CWD												CWD										
4.40 x 3.57*	111.8 x 90.7											CWD												CWD										
5.33 x 4.58*	135.3 x 115.7											CWD												CWD										
6.25 x 2.12**	156.7 x 54.0												DRD												DRD									
7.25 x 3.12**	184.1 x 79.4												DRD												DRD									
8.25 x 4.12**	209.5 x 104.8												DRD												DRD									

*Corner Duct Profile
**DIN Rail Duct Profile

+Intrinsic Blue Color –

Intrinsic Blue wiring duct is made from the same lead-free PVC material as our standard PVC duct. Intrinsic Blue is an Internationally recognized standard blue color that identifies the wiring duct as “incapable of releasing sufficient electrical or thermal energy under normal or abnormal conditions, to cause ignition of a specific hazardous atmospheric mixture in its most easily ignited concentrations."

+ISA-RD12.6 (Instrument Society of America)

Panduct® Type D, G, F and FS Wiring Duct – Wire Fill Capacity

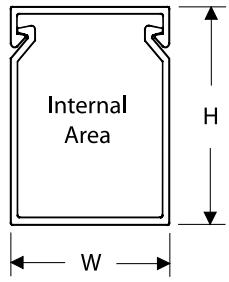
Nominal Duct Size (W x H) In.	Nominal Area In.²	Electrical															Communication			
		8 AWG	10 AWG	12 AWG			14 AWG			16 AWG			18 AWG			22 AWG	23 AWG	23/24 AWG	24 AWG	Fiber Cable
		0.216	0.164	0.13	0.141	0.152	0.111	0.124	0.133	0.096	0.111	0.118	0.084	0.100	0.106	0.085	0.330	0.25	0.190	0.118
		THHN	THHN	THHN	MTW	MTW	THHN	MTW	MTW	TFFN	MTW	MTW	TFFN	MTW	MTW	MTW	Cat. 6A	Cat. 6	Cat. 5e	3.0 mm
0.50 x 0.50	0.250	3	5	8	7	6	11	9	8	15	11	10	20	14	12	19	1	2	3	10
0.50 x 1.00	0.500	6	10	16	14	12	23	18	16	31	23	20	40	28	25	39	2	4	7	20
0.50 x 2.00	1.000	12	21	33	28	24	46	37	32	62	46	41	80	57	50	79	5	9	15	40
0.75 x 0.75	0.563	6	11	19	16	13	26	20	18	34	26	23	45	32	28	44	2	5	8	23
0.75 x 1.00	0.750	9	15	25	21	18	34	27	24	46	34	30	60	42	38	59	3	6	11	30
0.75 x 1.50	1.125	13	23	38	32	27	52	41	36	69	52	46	91	64	57	88	5	10	17	46
0.75 x 2.00	1.500	18	31	50	43	37	69	55	48	93	69	61	121	85	76	118	7	13	23	61
1.00 x 1.00	1.000	12	21	33	28	24	46	37	32	62	46	41	80	57	50	79	5	9	15	40
1.00 x 1.50	1.500	18	31	50	43	37	69	55	48	93	69	61	121	85	76	118	7	13	23	61
1.00 x 2.00	2.000	24	42	67	57	49	92	74	64	124	92	82	161	114	101	158	10	18	31	81
1.00 x 3.00	3.000	36	63	101	86	74	139	111	96	186	139	123	242	171	152	237	15	27	47	122
1.00 x 4.00	4.000	48	84	135	114	98	185	148	129	248	185	164	323	228	203	316	20	36	63	163
1.50 x 1.00	1.500	18	31	50	43	37	69	55	48	93	69	61	121	85	76	118	7	13	23	61
1.50 x 1.50	2.250	27	47	76	64	55	104	83	72	139	104	92	182	128	114	177	11	20	35	92
1.50 x 2.00	3.000	36	63	101	86	74	139	111	96	186	139	123	242	171	152	237	15	27	47	122
1.50 x 3.00	4.500	55	95	152	129	111	208	167	145	279	208	184	364	257	228	355	23	41	71	184
1.50 x 4.00	6.000	73	127	202	172	148	278	222	193	372	278	246	485	342	305	474	31	54	94	245
2.00 x 1.00	2.000	24	42	67	57	49	92	74	64	124	92	82	161	114	101	158	10	18	31	81
2.00 x 1.50	3.000	36	63	101	86	74	139	111	96	186	139	123	242	171	152	237	15	27	47	122
2.00 x 2.00	4.000	48	84	135	114	98	185	148	129	248	185	164	323	228	203	316	20	36	63	163
2.00 x 3.00	6.000	73	127	202	172	148	278	222	193	372	278	246	485	342	305	474	31	54	94	245
2.00 x 4.00	8.000	97	169	270	229	197	371	297	258	496	371	328	647	457	406	632	41	73	126	327
2.00 x 5.00	10.000	122	212	338	287	247	463	371	323	620	463	410	809	571	508	790	52	91	158	409
2.50 x 3.00	7.500	91	159	253	215	185	347	278	242	465	347	307	607	428	381	593	39	68	118	307
3.00 x 1.00	3.000	36	63	101	86	74	139	111	96	186	139	123	242	171	152	237	15	27	47	122
3.00 x 2.00	6.000	73	127	202	172	148	278	222	193	372	278	246	485	342	305	474	31	54	94	245
3.00 x 3.00	9.000	110	191	304	258	222	417	334	290	558	417	369	728	514	457	711	47	82	142	368
3.00 x 4.00	12.000	146	254	405	344	296	556	445	387	744	556	492	971	685	610	949	62	109	189	491
3.00 x 5.00	15.000	183	318	507	431	370	695	557	484	930	695	615	1214	857	762	1186	78	137	237	614
4.00 x 1.50	6.000	73	127	202	172	148	278	222	193	372	278	246	485	342	305	474	31	54	94	245
4.00 x 2.00	8.000	97	169	270	229	197	371	297	258	496	371	328	647	457	406	632	41	73	126	327
4.00 x 3.00	12.000	146	254	405	344	296	556	445	387	744	556	492	971	685	610	949	62	109	189	491
4.00 x 4.00	16.000	195	339	540	459	395	742	594	516	992	742	656	1295	914	813	1265	83	146	253	655
4.00 x 5.00	20.000	244	424	676	574	494	927	743	646	1240	927	820	1619	1142	1017	1581	104	182	316	819
6.00 x 4.00	24.000	293	509	811	689	593	1113	891	775	1488	1113	984	1943	1371	1220	1898	125	219	379	983

General Formula

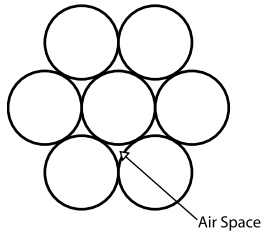
Panduit Wiring Duct wire fills are calculated using the following general formula:

$$50\%\ \text{Wire fill} = 50\%\ \text{of} \left(\frac{\text{Usable Duct Area}}{\text{Wire Area}}\right)$$

Calculation of Internal Area



Air Space Allotment



Why use a 50% Wire Fill?

As specified in NFPA79-2012 section 13.5.2, Percentage Fills of Raceways (Ducts), a 50% wire fill is given as the maximum wire fill capacity in all Panduit Wiring Ducts. This helps ensure general safe wiring practices are followed. In actual practice, a 50% wire fill is the maximum amount of wiring the duct can hold given the additional airspace created between cables by non-uniform cable shapes, cable interlacing, and cable packing factors.

What is the Usable Duct Area?

The usable area we define as the calculation of internal area that can be occupied by wires or cables. Accounting for thickness of material, 90% of the nominal area (WxH) is used in the formula.

Wire Area

The wire area formula is converted to allow calculation using the cable diameter:

$$A_{WIRE} = \pi r^2$$
$$A_{WIRE} = (\pi/4) \times D^2$$
$$A_{WIRE} = 0.785 \times D^2$$

Formula Derivation

Inserting the elements from above into the general formula results in the following:

$$50\%\ \text{Wire fill} = 0.50 \left(\frac{(W \times H) \times 0.90}{0.785 \times D^2}\right)$$

Simplifying this formula results in the formula used for wire fill calculation:

$$50\%\ \text{Wire fill} = \left(\frac{W \times H}{1.75 \times D^2}\right)$$

Note: When calculating wire fill capacity using the above formula, variables W, H, and D must be expressed in same units (i.e. mm or inches).

Part Numbering System for Panduct® Wiring Duct

G **2** X **2** **LG** — **6** **-A**

Type
G = Wide Slot
F = Narrow Slot
FL = Flexible Duct
FS = Solid Wall
H = Hinged Cover Wide Slot
HN = Hinged Cover, Narrow Slot
HS = Hinged Cover, Solid Wall
D = Round Hole
NNC = Halogen-Free, Metric
NE = Halogen-Free
MC = Narrow Slot, Metric
TNC = Low Smoke, Halogen-Free

Nominal Width
In. or mm

Nominal Height
In. or mm

Color
LG = Light Gray
WH = White
BL = Black
IB = Intrinsic Blue
IG = International Gray

Length
6 ft. or 2m

Options
-A = Adhesive backed
NM = No mounting holes
= Leave blank for no options

Part Numbering System for Panduct® PanelMax™ DIN Rail Wiring Duct

DRD **22** **LG** **6**

Type
DRD = DIN Rail Duct

Size
Capability Height
22 = 2" Height
33 = 3" Height
44 = 4" Height

Color
LG = Light Gray
WH = White

Length
6 ft.

Part Numbering System for Panduct® PanelMax™ Corner Wiring Duct

CWD **2** **LG** **6**

Type
CWD = Corner Wiring Duct

Size
Capability Height
2 = 2" Height
3 = 3" Height
4 = 4" Height

Color
LG = Light Gray
WH = White

Length
6 ft.

Part Numbering System for Panduct® Wiring Duct Covers

C **2** **LG** **6**

Type
C = Cover
HC = Hinged Cover
NC = Halogen-Free
TNC = Low Smoke, Halogen-Free
DRDC = DIN Rail Duct

Width
In. or mm

Color
LG = Light Gray
WH = White
BL = Black
IB = Intrinsic Blue
IG = International Gray

Length
6 ft. or 2m

Panduct® PanelMax™ Shielded Wiring Duct

Shielded wiring duct is a Type G style duct with bridges wrapped with an aluminum foil shield. Sold in 6 ft. lengths, available in three (3) sizes and uses Type C covers and uses standard cover part number C2LG6.

Part Number	Size (W x H)
G2X2LG6EMI	2" x 2"
G2X3LG6EMI	2" x 3"
G2X4LG6EMI	2" x 4"

Panduct® PanelMax™ Noise Shield

Noise shield is zinc-plated steel and black powder coated except at bonding locations. Each kit contains two (2) 3 ft. sections and four (4) bonding clips.*

Part Number	Size (H)
SD2EMI	2"
SD3EMI	3"
SD4EMI	4"

*Additional bonding clips available – SDCLIP (2 per package).

Wiring Duct Material Properties

Rigid Polyvinyl Chloride (PVC)

A general purpose lead-free material for indoor applications. It has a UL 94 flame class of V-0 with a UL recognized continuous-use temperature up to 50°C (122°F). Used in the manufacture of the following types of Panduit wiring duct and covers: G, F, D, FS, MC, H, HN, HS, CWD, DRD.

Halogen-Free, Polyphenylene Oxide (PPO)

A special purpose material for use in halogen-free or high-temperature applications. It has a UL 94 flame class of V-0 with a UL recognized continuous-use temperature up to 95°C (203°F) and is 20% lighter than PVC. Used in the manufacture of the following types of Panduit wiring duct and covers: NE and NNC.

Low-Smoke, Halogen-Free, Polyphenylene Ether + High Impact Polystyrene (PPE + HIPS)

A special purpose material for use in low-smoke, halogen-free, and high-temperature applications. It has a UL 94 flame class of V-0 with a UL recognized continuous-use temperature up to 105°C (221°F). Meets the regulatory requirements of the mass transit industry and other applications where fire and public safety are critical; such as in trains, buses, offshore oil and gas platforms, and other similar environments. Used in the manufacture of Type TNC wiring duct and covers.

Polypropylene (PP)

A flexible material with a UL 94 flame class of V-2 with a UL recognized continuous-use temperature up to 65°C (149°F). Used in the manufacture of Type FL flexible wiring duct.

Recommended Precaution when using Type NE, NS, NNC, and TNC Wiring Duct

Cleaning solvents and cutting fluids that contain any of the following chemical agents should not come into contact with these types of wiring duct or covers. These chemicals are the most commonly known to cause stress cracking.

- Hydrocarbons
- Phenols
- Ketones
- Amines
- Ethers
- Organic, inorganic, and oxidizing acids
- Petrol

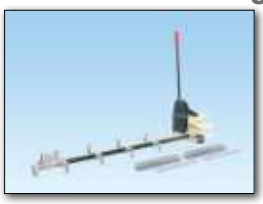
Refer to www.panduit.com for more information on chemical resistance.

Unmatched Expertise

Panduit continually invests in resources to solve your greatest business and technology challenges. Our network of sales, technical support, distribution, and manufacturing teams are readily accessible to help you with your project needs.

Complete Your Installation with Accessories and Installation Tools

Wire Duct Cutting Tools



PBDCT –
Bench Mount Duct Cutting Tool



DCT –
Hand-Held Duct Cutting Tool



DNT-100 –
Duct Notching Tool



DFCT –
Duct Finger Cutting Tool

Wire Duct Installation Tools



TNR –
Nylon RIvet Installation Tool



Nylon Rivets:
NR1-C – 100 pcs.
NR1-M – 1000 pcs.

Accessories



Type FL –
Flexible Wiring Duct; available in lengths of 500mm and in three sizes: 12mm x 12mm, 25mm x 25mm, 50mm x 50mm



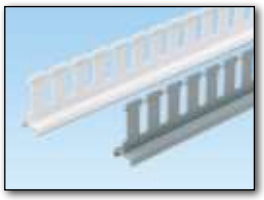
Adhesive Tape –
Available in roll form or factory applied on select sizes

Divider Walls



PVC Divider Walls:

Light Gray	White
D2H6 – 2"(H)	**D2HWH6 –** 2"
D3H6 – 3"	**D3HWH6 –** 3"
D4H6 – 4"	**D4HWH6 –** 4"



PVC Slotted Divider Walls:

Light Gray	White
SD2H6 – 2"(H)	**SD2HWH6 –** 2"
SD3H6 – 3"	**SD3HWH6 –** 3"
SD4H6 – 4"	**SD4HWH6 –** 4"



DB-C –
Divider Wall Base for mounting all types of divider walls; halogen-free

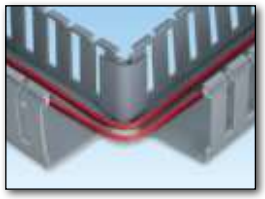


Halogen-Free Divider Walls:
NNC50DWH2 – 50mm (H)
NNC75DWH2 – 75mm
Low Smoke, Halogen-Free:
TNC50D2 – 50mm
TNC75D2 – 75mm

Corner Strips



CSC1LG6 –
6 ft. length strip with bend radius control



CS1LG6 –
6 ft. length strip

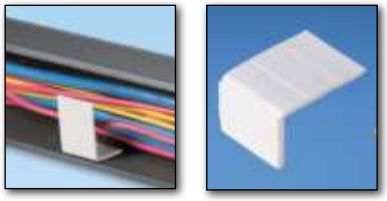
Snap-Clip Mounting Brackets



For Wiring Duct Types G, F, FS, and D:
S1F-C – 1" duct width
S1.5F-C – 1.5" duct width
S2F-C – 2" duct width
S3F-C – 3" duct width
S4F-C – 4" duct width

For Wiring Duct Type NE:
SNS.5-C – 0.5' duct width
SNS.75-C – 0.75' duct width
SNS1-C – 1" duct width
SNS1.5-C – 1.5" duct width
SNS2-C – 2" duct width
SNS3-C – 3" duct width

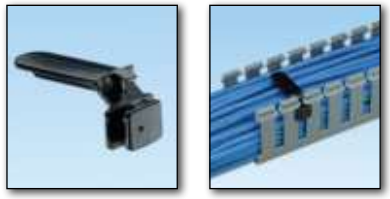
Wire Retainers



For Type FS and D Wiring Duct:
WRS-A-C10 – for 1" – 2" duct width



For Type F and HN Wiring Duct:
FWR-C – for 1.5" – 4" duct width
For Type MC Wiring Duct:
FMWR-C – for 1.5" – 4" duct width



For Type G and H Wiring
WR2-C – for 2" duct width
WR3-C – for 3" duct width
WR4-C – for 4" duct width
WR5-C – for 5" duct width
WR2H-C – for 2" hinged duct

Panduit Wiring Duct Approvals and Compliances

Agency Mark	Agency	Requirement	Classification/Performance	Wiring Duct Types/Products
	Underwriters Laboratories, Inc. File No. E147128	UL 1565	Material Flame Class V-0 Continuous-use temperature up to 50°C (122°F)	All wiring duct types and covers
		UL 1565 CSA C22.2 No. 18.5-13	Material Flame Class V-0 Continuous-use temperature up to 50°C (122°F)	Type H, HS, HN, and DRD
	Underwriters Laboratories, Inc.	UL 508 section 15	An insulating barrier material shall comply with the minimum material properties indicated in Table 15.1	PVC divider walls
		UL 508 sections 34 and 181	Qualifies as a metal barrier with required thickness as indicated in Table 6.1	SD*EMI metal barrier
	Canadian Standards Association File No. 016446	CSA C22.2 No. 18.5-13	Material Flame Class V-0 Continuous-use temperature up to 50°C (122°F)	All wiring duct types and covers (except H, HS, and HN)
CE	European Union	Low Voltage Directive 2006/95/EC	• CDS (cable ducting system for impact 2 J) • Minimum storage, transport, installation, and application temperature: -5°C (23°F) • Maximum application temperature: 60°C (140°F) • Non-flame propagating • Without electrical continuity • Cover removable without a tool	H, HS, G, F, D, MC, FS, NNC, NE, DRD, and TNC
		EN 50085-1 EN 50085-2-3		
	European Union	EN 45545-2	Type NNC and Type NE: Exterior (R23) - HL1 Type TNC: Interior (R22) - HL2 & Exterior (R23) - HL2	NNC and TNC
	DIN German Institute for Standardization	DIN 43659	• Specifies dimensions for slotted trunkings used in electrical switch-gear assemblies and that conform to DIN VDE 060 Part 506 • Channel mounting hole pattern, slot dimensions, pitch, and location • Distance from first to last like-size mounting hole • Minimum overall product length	MC, NNC, and TNC
		DIN 5510-2 DIN 54837	Burning Class: S4 Smoke Class: SR2 Dripping Class: ST2	TNC
	AFNOR French Association of Normalization	NF F 16-101 NF F 16-102	Type NNC Wiring Duct Classification = F3/I4 Type TNC Wiring Duct Classification = F1/I4	NNC and TNC
	UNIFER Italian Railway Standards	EN ISO 11925-2	Pass 30-second flame application	TNC
	FRA – Federal Railroad Administration	49 CFR Part 238	Surface Flammability: < 35 Smoke Density D_s (1.5) < 100 D_s (4.0) < 200	TNC
	NFPA – National Fire Protection Association	NFPA130		
	National Fire Protection Agency	NFPA 79-2015, Section 13.3.1 IEC 60332-1	Non-metallic duct shall be permitted (inside enclosures) only when they are made with a flame-retardant material; flame-retardant material is defined in the standard by the IEC 60332-1 test method	All wiring duct types and covers (except FL)
		NFPA 79-2015, Section 13.5.2	Panduit publishes a maximum percentage wire fill for common wire types equal to 50% of the interior cross-sectional area of the wiring duct	All wiring duct types and covers
		NFPA 79-2015, section 13.1.6.9	Panduit bend radius control accessories can be mounted at right angles and T junctions created using wiring duct in order to maintain cable bend radius control	Corner strip with 1" bend radius control
RoHS	European Union	European Directive 2011/65/EU	Meets the requirements on the Restriction of Hazardous Substances and is free of the six substances listed in the directive	All wiring duct products

PANDUIT®

For more information

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or by phone: 800.777.3300

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WDSG03--SA-ENG
Replaces WDSG02--SA-ENG
3/2016