

**Technical Data**

**General Information**

Product Type	Typical Applications	Specific Gravity	Flammability	Water Absorption	Dielectric Strength	Page No.
HSTT	Economical and easy way to insulate, protect, harness and identify electrical and electronic components in a wide variety of applications. Black is U.V. Resistant.	Class 1, 1.35 Class 2, 1.0 ASTM D792	Class 1 Self Extinguishing Class 2 N/A ASTM D2671 Procedure B	0.5% MAX. ASTM D570	500 V/MIL. (19.7 Kv/mm)min. ASTM D2671	131 — 134
HSTTV	Use where UL recognition with VW-1 rating is required. Use where the wire component cannot tolerate higher shrink temperatures, reduces application time to insulate, protect, identify, etc. Black is U.V. Resistant.	1.50 ASTM D792	Self Extinguishing ASTM D2671 Procedure C	0.5% MAX. ASTM D570	500 V/MIL. (19.7 Kv/mm)min. ASTM D2671	135 — 136
HSTTVA	Seals and protects components from moisture and corrosion. Use where a flexible tubing is needed. Suitable for damp locations.	N/A	Self Extinguishing ASTM D2671 Procedure B	0.5% MAX. ASTM D570	500 V/MIL. (19.7 Kv/mm)min. ASTM D2671	141
HSTTRA	Environmentally seals and protects components forming a rugged and heavy duty covering. The 2.5:1 shrink ratio is a benefit when working with connector to cable transitions. Suitable for damp locations.	N/A	N/A	0.5% MAX. ASTM D570	500 V/MIL. (19.7Kv/mm)min ASTM D2671	143
HSTTA	Environmentally seals and protects components. The 3:1 shrink ratio is a benefit when working with connector to cable transitions. Suitable for damp locations.	N/A	Self Extinguishing ASTM D2671 Procedure B	1.0% MAX. ASTM D570	300 V/MIL. (11.8 Kv/mm)min. ASTM D2671	142
HST	Seals and protects electrical connections and splices above or below ground, 3:1 shrink ratio. Suitable for outdoor and wet locations.	1.2 MAX.	Self Extinguishing ASTM D2671 Procedure C	0.5% MAX. ASTM D570	200 V/MIL. (7.9 Kv/mm)min. ASTM D2671	144
HSTTP	Ripple free conformance around sharp bends as in appliance handles and bus bars. Good cut through and solder-iron resistance. Black is U.V. Resistant.	1.35 MAX.	Self Extinguishing ASTM D876	1.0% MAX. ASTM D570	400 V/MIL. (15.8 Kv/mm)min. ASTM D2671	137
HSTTN	Insulation and abrasion resistance, extensive military uses on vehicles and ship-board. Excellent chemical resistance especially to fuels and oils. Only available in Black.	1.30 ASTM D792	Self Extinguishing ASTM D876	1.0% MAX. ASTM D570	300 V/MIL. (11.8 Kv/mm)min. ASTM D2671	138
HSTTK	Protection and strain relief for wires or connectors in a high temperature or solvent rich environment. Insulation of heater leads.	1.8 MAX. ASTM D792	Pass MIL-DTL-23053/8B 4.6.15.3	0.5% MAX. ASTM D570	Size to (12.7mm) 800 V/MIL. (31.5Kv/mm)min Over (12.7mm) 600 V/MIL. (23.6Kv/mm)min ASTM D2671	140
HSTTT	High insulation and abrasion resistance. High temperature, strain relief, resists corrosive atmospheres, self lubrication and non wetting. Can be used with fibre optics and as a strain relief for high density connectors. U.V. Resistant	2.2 MAX. ASTM D792	N/A Non-flammable	0.01% MAX. ASTM D570	800 V/MIL. (31.5 Kv/mm)MIN. ASTM D2671	139



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**Non-Shrink PVC Tubing**

- Provides insulation and protection for lead wires, wire harness assemblies, soldered joints and components in electrical and electronic equipment
- Material: Polyvinyl chloride (PVC)
- Voltage Rating: 300V and 600V
- All purpose, flexible, non-shrinkable
- Resistant to heat and moisture
- Applicable Specifications:  
 UL224 VW-1  
 CSA C22.2 No. 198.1  
 ASTM D-922, Grade CFR  
 MIL-I-631, Type F, Form U, Grade C  
 Class 1, Category 1

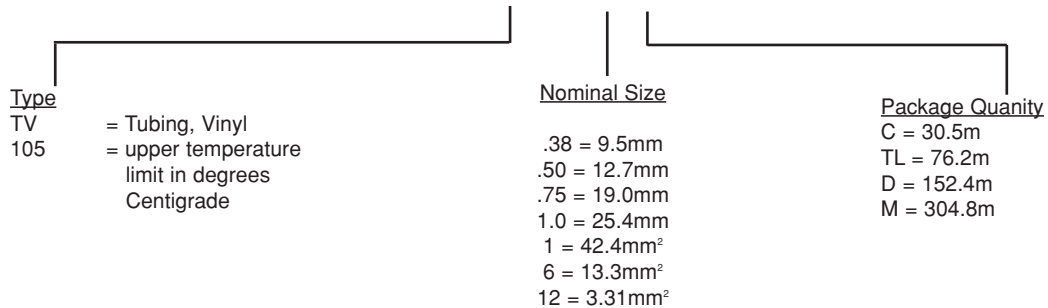


VW-1

**The Functional Part Number System Makes Ordering Easy**

**Non-Shrink PVC Tubing Part Number System**

**TV105 - 12 M**



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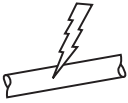
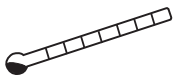




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# PANDUIT™ PVC Tubing

## Non-Shrink PVC Tubing



Type	Materials	
TV105	 Polyvinyl Chloride	
 300V/600V**	 -20°C to 105°C	 MIL-I-631, Type F, Form U Grade C Class 1, Cat1
 Highly Flexible	 Oil Resistant	 Highly Flame Retardant VW-1

Part Number Clear	Part Number Black	Nominal Size/ Trade Name	Inside Diameter — mm		Wall Thickness mm	Maximum Voltage Rating	Std. Pkg. Qty.	Std. Ctn. Qty.
			Maximum	Minimum				
TV105-12MY	TV105-12M20Y	3.31mm <sup>2</sup>	2.26	2.06	0.41	300V	304.8m	2 Reels
TV105-6MY	TV105-6M20Y	10.5mm <sup>2</sup>	4.52	4.11	0.51		304.8m	2 Reels
TV105-1MY	TV105-1M20Y	42.4mm <sup>2</sup>	7.89	7.34			304.8m	1 Reel
TV105-.38DY	TV105-.38D20Y	9.5	10.13	9.53	0.64	600V	152.4m	1 Reel
	TV105-.50D20Y	12.7	13.30	12.70			152.4m	1 Reel
TV105-.75TLY	TV105-.75TL20Y	19.0	19.96	19.05	0.89		76.2m	1 Reel
TV105-1.0CY	TV105-1.0C20Y	25.4	26.31	25.40		30.5m	2 Reels	



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# PANDUIT™ Split Harness Wrap

## PAN-WRAP™ Split Harness Wrap



*PAN-WRAP* Split Harness Wrap is an innovative addition to the *PANDUIT* Abrasion Protection Line. Engineered for wire harness protection, *PAN-WRAP* bundles and protects wire, cable and hoses. The *PAN-WRAP* design provides full 360° coverage with pre-cut slots for break-outs to maximise reliability and reduce installation time. *PAN-WRAP* tools are available for easy installation.

### Features and Benefits

- Slotted walls allow wire break-outs to speed installation
- Flexible design allows manoeuvrability and protects wire and cables during movement
- New installation tool reduces installation time and lowers installed cost
- 360° abrasion protection improves product reliability

### Applications:

- Wire Harness Assembly
- Transportation
- Commercial Appliances
- Industrial Robotics



Open *PAN-WRAP* Tool to enable the wire bundle to be inserted inside the tool.



Insert wire bundle inside tool. Close tool to secure the wire bundle and prepare to insert bundle into the *PAN-WRAP* Split Harness Wrap.



Insert end of tool into the end of Split Harness Wrap. Begin pulling the tool making certain that the Split Harness Wrap is feeding over the wire bundle.



Hold end of Split Harness Wrap and wire bundle while continuing to pull the tool, inserting the wire bundle into the length of the Split Harness Wrap.

### Split Harness Wrap

Part Number	Size I.D. mm	Maximum Bundle Diameter mm	Material	Colour	Length m	Std. Pkg. Qty.
PW50F-T	12.7	13.97	Polyethylene	Natural	61.1	1
PW75F-C	19.1	20.32			30.5	1
PW100F-C	25.4	28.7			30.5	1
PW150F-L	38.1	41.4			15.2	1
PW50F-T20	12.7	13.97	Polyethylene	Black	61.1	1
PW75F-C20	19.1	20.32			30.5	1
PW100F-C20	25.4	28.7			30.5	1
PW150F-L20	38.1	41.4			15.2	1

### Flame Retardant

PW50FR-T	12.7	13.97	Flame Retardant Polyethylene	Natural	61.1	1
PW75FR-C	19.1	20.32			30.5	1
PW100FR-C	25.4	28.7			30.5	1
PW150FR-L	38.1	41.4			15.2	1
PW50FR-T20	12.7	13.97	Flame Retardant Polyethylene	Black	61.1	1
PW75FR-C20	19.1	20.32			30.5	1
PW100FR-C20	25.4	28.7			30.5	1
PW150FR-L20	38.1	41.4			15.2	1

### Tool

Part Number	Material	Colour	Size	Std. Pkg. Qty.
PWT50	ABS	White	—	1
PWT75	ABS	White	—	1
PWT100	ABS	White	—	1
PWT150	ABS	White	—	1

## Spiral Wrap



## Spiral Wrap



- Large variety of colours, materials and sizes
- Available in seven different materials and twelve different colours
- Can be used to colour code wire bundles
- Flexible, neat, fast
- Allows breakouts of single/multiple wires and re-routing of replacement wires
- Harness multiple cables into a single manageable bundle
- Abrasion protection for wires, cables, hoses and tubing
- Reusable
- Tool supplied in each package

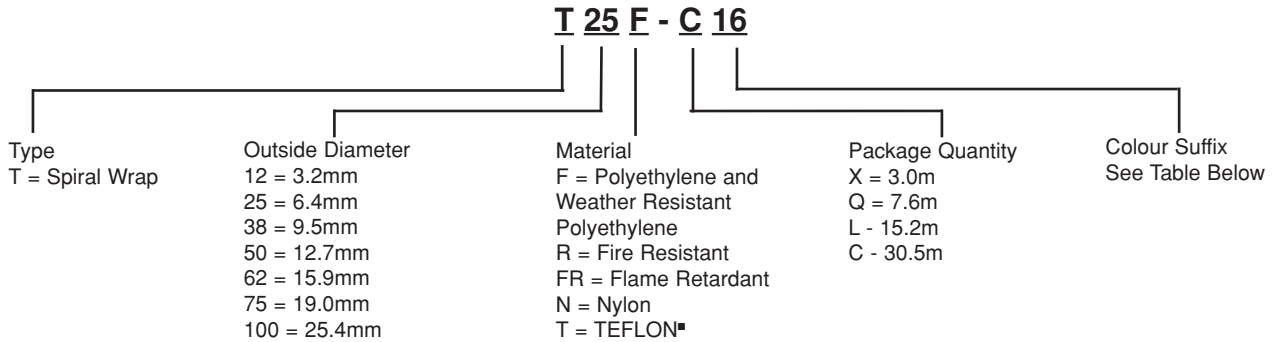
## Suggested Applications



- Organise wires for communication and computer equipment where access to the wires is required
- In OEM applications for protecting tubes and harnesses
- Abrasion protection for control panel wiring
- Personal computer and printer wire organisation
- Protect glass tubes from abrasion and breakage
- Kink-proofing for all kinds of tubing ideal for laboratories
- Eliminates lacing cord and tie-offs
- Use orange or yellow spiral wrap for protecting and identifying fibre optic cables

## The Functional Part Number System Makes Ordering Easy

### Spiral Wrap Part Number Description



#### MATERIAL AVAILABILITY

Colour	Colour Suffix*	Polyethylene	Weather Resistant Polyethylene	Fire Resistant Polyethylene	Flame Retardant Polyethylene	Nylon	Weather Resistant Nylon	TEFLON <sup>®</sup>
Natural (Opaque to Translucent)	No Suffix will be listed	✓		• (Natural white)	• (Natural white)	✓		✓
Weather Resistant Black	0		✓				✓	
Brown	1	✓						
Red	2	✓						
Orange	3	✓						
Yellow	4	✓						
Green	5	✓						
Blue	6	✓						
Purple	7	✓						
Grey	8	✓						
White	10	✓						
Pink	16	✓						
Black	20			✓	✓			

Blank= Not applicable

\* Colours are stocked for 6.4mm and 12.7mm Polyethylene. Other sizes available, contact your customer service representative.

▪ TEFLON or equivalent fluorocarbon PTFE material is used. TEFLON is a registered trademark of E.I. DuPont de Nemours Co.



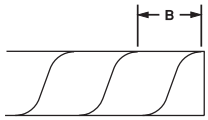
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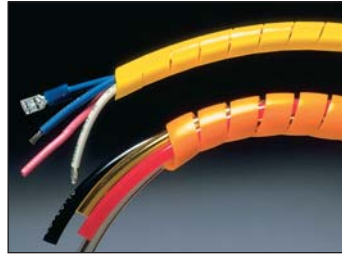
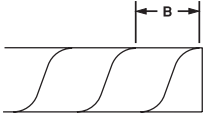
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# PANDUIT™ Spiral Wrap



Part Number	Material	Colour	A Outside Dia. mm	B mm	T mm	Bundle Size mm	Std. Pkg. Qty.* m		
T12F-C	Polyethylene	Natural	3.2	5.5	0.76	1.6 - 12.7	30.5		
T19F-C									
T25F-C									
T25F-C1		Brown	4.8	6.4	0.89	3.2 - 25.4	30.5		
T25F-C10		White							
T25F-C16		Pink							
T25F-C2		Red							
T25F-C3		Orange							
T25F-C4		Yellow							
T25F-C5		Green							
T25F-C6		Blue							
T25F-C7		Purple							
T25F-C8		Grey							
T38F-C		Polyethylene	Natural	9.5	11.1	1.4	7.9 - 76.2	3.0	
T50F-X									
T50F-C									
T50F-C1	Brown		12.7	12.7	1.5	9.5 - 101.6	30.5		
T50F-C10	White								
T50F-C16	Pink								
T50F-C2	Red								
T50F-C3	Orange								
T50F-C4	Yellow								
T50F-C5	Green								
T50F-C6	Blue								
T50F-C7	Purple								
T50F-C8	Grey								
T62F-C	Polyethylene		Natural	15.9	16.0	1.57	12.7 - 114.3	30.5	
T75F-C				19.1	22.2	1.65	15.9 - 127.0		
T100F-C		25.4		28.6	1.78	22.2 - 152.4			
T12F-C0		3.3		5.5	0.76	1.6 - 12.7	3.0		
T25F-X0		6.4		9.5	1.02	4.8 - 50.8			
T25F-C0	Weather Resistant Polyethylene	Black	9.5	11.1	1.4	7.9 - 76.2	30.5		
T38F-C0			12.7	12.7	1.5	9.5 - 101.6	3.0		
T50F-X0			15.9	16.0	1.57	12.7 - 114.3	30.5		
T50F-C0			19.1	22.2	1.65	15.9 - 127.0			
T62F-C0			25.4	28.6	1.78	22.2 - 152.4			
T75F-C0			Fire Resistant Polyethylene	Natural	3.3	5.5	0.76	1.6 - 12.7	30.5
T12R-C					4.8	6.4	0.89	3.2 - 25.4	
T19R-C					6.4	9.5	1.02	4.8 - 50.8	
T25R-C	9.5	1.02				4.8 - 50.8			
T25R-C20	9.5	11.1			1.4	7.9 - 76.2			
T38R-C	Natural	12.7	12.7	1.5	9.5 - 101.6				
T50R-C	Natural	15.9	15.9	1.57	12.7 - 114.3				
T62R-C	Natural	19.1	22.2	1.65	15.9 - 127.0				
T75R-C	Natural	25.4	28.6	1.78	22.2 - 152.4				
T100R-C	Natural	3.3	5.5	0.76	1.6 - 12.7	3.0			
T25F-X0	6.4	9.5	1.02	4.8 - 50.8					

# PANDUIT™ Spiral Wrap



Part Number	Material	Colour	A Outside Dia. mm	B mm	T mm	Bundle Size mm	Std. Pkg. Qty.* m		
T12FR-C	Flame Retardant Polyethylene	Natural	3.3	5.5	0.76	1.6 - 12.7	30.5		
T12FR-C20		Black		5.5	0.76	1.6 - 12.7			
T19FR-C		Natural	4.8	6.4	0.81	3.2 - 25.4			
T19FR-C20		Black		6.4	0.81	3.2 - 25.4			
T25FR-C		Natural	6.4	9.5	1.02	4.8 - 50.8			
T25FR-C20		Black		9.5	1.02	4.8 - 50.8			
T38FR-C		Natural	9.5	11.1	1.4	7.9 - 76.2			
T38FR-C20		Black		11.1	1.4	7.9 - 76.2			
T50FR-C		Natural	12.7	12.7	1.5	9.5 - 101.6			
T50FR-C20		Black		12.7	1.5	9.5 - 101.6			
T62FR-C		Natural	15.9	15.9	1.57	12.7 - 114.3			
T62FR-C20		Black		15.9	1.57	12.7 - 114.3			
T75FR-C		Natural	19.1	22.2	1.65	15.9 - 127.0			
T75FR-C20		Black		22.2	1.65	15.9 - 127.0			
T100FR-C		Natural	25.4	28.6	1.78	22.2 - 152.4			
T100FR-C20		Black		28.6	1.78	22.2 - 152.4			
T12N-C		Nylon (Black is Weather Resistant Nylon)	Natural	3.3	5.5	0.38		1.6 - 12.7	30.5
T12N-C0			Black		5.5	0.38		1.6 - 12.7	
T19N-C	Natural		4.8	6.4	0.51	3.2 - 25.4			
T19N-C0	Black			6.4	0.51	3.2 - 25.4			
T25N-C	Natural		6.4	9.5	0.58	4.8 - 50.8			
T25N-C0	Black			9.5	0.58	4.8 - 50.8			
T38N-C	Natural		9.7	11.1	0.76	7.9 - 76.2			
T38N-C0	Black			11.1	0.76	7.9 - 76.2			
T50N-C	Natural		12.7	12.7	0.81	9.5 - 101.6			
T50N-C0	Black			12.7	0.81	9.5 - 101.6			
T62N-C	Natural		15.9	15.9	0.89	12.7 - 114.3			
T62N-C0	Black			15.9	0.89	12.7 - 114.3			
T75N-C	Natural		19.1	22.2	1.01	15.9 - 127.0			
T75N-C0	Black			22.2	1.01	15.9 - 127.0			
T100N-C	Natural		25.4	28.6	1.0	22.2 - 152.4			
T100N-C0	Black			28.6	1.0	22.2 - 152.4			
T12T-C	TEFLON <sup>®</sup>		Natural	3.2	5.5	0.5	1.6 - 12.7	30.5	
T19T-C				4.8	6.4	0.76	3.2 - 25.4	15.2	
T25T-L		6.4		9.5	0.76	4.8 - 50.8			
T50T-Q		12.7		12.7	0.76	9.5 - 101.6	7.6		
T62T-Q		15.9		15.9	0.76	12.7 - 114.3			
T75T-X		19.1		22.2	0.76	15.9 - 127.0	3.0		
T100T-X		25.4		28.6	1.01	22.2 - 152.4			

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