

# Material Brands & Attributes Guide

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## Product Performance Icons

Brady's implementation of a series of attribute icons provides customers with at-a-glance information on performance attributes for each of the label materials. Watch for these icons to help you easily identify product performance features that fit your needs.

THT Label Materials



### Abrasion Resistance

- Resistance proven with testing on Taber Abraser equipment with CS10 grinding wheels and weighted arms. Print is still legible after 100 cycles.



### Ultra-Aggressive Adhesion

- Measures the force required to remove tape from the surface with a 180° peel and a constant rate of 12 inch/min. Meets an adhesion rate of at least 155 oz/in.



### Solvent/Chemical Resistance

- Resistance proven with MEK / Acetone / Toluene / Xylene Immersion Test
- 5 cycles of 10 min immersions followed by rub test with cotton swab. No visible effect or print removal.



### Outdoor Durability

- Favorable UV & weatherability testing equating to 3 years or greater outdoor durability.



### Fuel/Oil Resistance

- Resistance proven with Immersion Test in Gasoline, Break Fluid, SAE 30wt Oil, JP-8 Jet Fuel, MIL-H- 5606 Oil.
- 5 cycles of 10 minute immersions followed by rub test with cotton swab. No visible effect or slight print removal.



### Removable

- Indicates material can be removed cleanly with no adhesive residue left on surface.



### High Heat Resistance

- Resistance to 212°F (100°C). Labels subjected to a range of temperatures for 30 days or 1000 hours. No visible effect or label still functional.



### Tamper-Indicating

- Materials indicate tampering through a visible fractured label or footprint.



### Low Temperature Resistance

- Labels subjected to -40°C, -70°C or -80°C for 30 days or 1000 hours. No visible effect or label still functional.



### Electrostatic Dissipative

- Material has surface resistivity values in the recommended range for Dissipative ESD Packaging Materials.



### Self-Extinguishing Anti-Flammability

- Flammability average burn time = <30 seconds Flame spread index of 0



### Temperature-Indicating

- Indicates highest temperature exposure



### Water-Indicating

- Indicates presence of liquid

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## View The Technical Data Sheets

Brady offers online access to Technical Data Sheets for all Brady materials. View by a specific B-Number or search by relevant keywords.

Visit [BradyID.com/techdata](https://bradyid.com/techdata) for more information.



# PermaSleeve® Wire Marking Sleeves

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## B-342 PermaSleeve® PS Polyolefin Wire Marking Sleeves

B-342 PermaSleeve® PS Polyolefin Wire Marking Sleeves are a 3:1 heat shrinkable wire marking sleeve that fits snugly around wires for identification and protection.

These fade-resistant and flame retardant sleeves have an operating temperature of -67°F to +275°F (-55°C to +130°C).

### Meet these industry specifications:

- SAE-AMS-DTL-23053/5C (Class 1)
- SAE-AS-81531
- MIL-STD-202
- RoHS Compliant
- UL Recognized

### Tested per:

- ASTM E162
- ASTM E662

### Performance Attributes:



## Permasleeve Catalog Numbers:

Follow the steps below to assemble the B-342 PermaSleeve® PS Wire Marking Sleeve catalog number that meets your needs or view all available catalog number on the following pages.

### Example catalog number:

**3PS - 187 - 2 - WT - S - 4**

Product      Diameter      Width      Color      Roll Size      Pieces

Optional

### Create your own:

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Product      Diameter      Width      Color      Roll Size      Pieces

### Available options for B-342 PermaSleeve® PS Wire Marking Sleeves:

Step 1: Choose Product Type	Step 4: Choose Your Color
PS = Single Sided Printing, B-342 3PS = Double Sided Printing, B-342	Note: White is standard. All other colors are custom order. BK = Black      GR = Green      PK = Pink      WT = White BL = Blue      GY = Gray      RD = Red      YL = Yellow BR = Brown      OR = Orange      VT = Violet
Step 2: Choose Diameter	Step 5 (optional): Choose Roll Size
094 = 3/16" size fits wire diameter 0.023" - 0.080" and approx. wire gauge 28 to 20 125 = 1/8" size fits wire diameter 0.046" - 0.110" and approx. wire gauge 22 to 16 187 = 3/16" size fits wire diameter 0.062" - 0.150" and approx. wire gauge 20 to 10 250 = 1/4" size fits wire diameter 0.094" - 0.215" and approx. wire gauge 16 to 8 375 = 3/8" size fits wire diameter 0.125" - 0.320" and approx. wire gauge 12 to 4 500 = 1/2" size fits wire diameter 0.187" - 0.450" and approx. wire gauge 8 to 1 750 = 3/4" size fits wire diameter 0.250" - 0.700" and approx. wire gauge 6 to 4/0 1000 = 1" size fits wire diameter 0.333" - 0.950" and approx. wire gauge 2 to 0.950 dia. 1500 = 1 1/2" size fits wire diameter 0.500" - 1.400", wire gauge not applicable	Note: If small size is desired, indicate by inserting "S" into Roll Size blank. If sleeve diameter is 094-250: Standard = 2,500      Small ("S") = 500 If sleeve diameter is 375: Standard = 1,000      Small ("S") = 250 If sleeve diameter is 500: Standard = 500      Small ("S") = 250 If sleeve diameter is 750-1500: Standard=250      Small ("S") = 100
Step 3: Choose Sleeve Width	Step 6 (optional): Choose Pieces Per Sleeve
150 = 1 1/2"      2 = 2"	While 1 marker per sleeve is standard, if desired, the sleeve can be split into multiple pieces. Insert number of pieces into "Pieces" blank. Example: PS-094-150-WT-2 This "2" means that this 1.500" sleeve is slit into two 0.750" pieces Available options: 2, 3, or 4 pieces.
<b>Recommended Ribbon Series:</b> R4300, R6600, R6700 (with black sleeves) Series <b>Recommended Printer Series:</b> Bradyprinter™ PR Plus Printer, Brady IP™ Printer, BBP®72 Double Sided Printer <b>Software Compatibility:</b> LabelMark™ Labeling Software, CodeSoft™ 9 Labeling Software	

# PermaSleeve® Wire Marking Sleeves

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## B-342 PermaSleeve® Single-Sided Polyolefin Wire Marking Sleeves:

Use the table below to browse all available single-sided printing, 1.5" width B-342 PermaSleeve® PS Polyolefin Wire Marking Sleeves or build your own catalog number on page 184.

### Single-Sided Printable, 1.5" Sleeve Width

Catalog #	Color	Sleeves Per Roll	Approx. Wire Gauge	Range of Wire Diameter Inch (mm) Min. Max.	Supplied Diameter Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	Sleeve Width Inch (mm)	Rec. Printer	Rec. Ribbon
PS-094-150-WT	White	2,500	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-094-150-WT-**	White	2,500	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-094-150-WT-S	White	500	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-094-150-WT-S-**	White	500	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-125-150-WT	White	2,500	22 to 16	0.046 (1.2) - 0.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-125-150-WT-**	White	2,500	22 to 16	0.046 (1.2) - 0.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-125-150-WT-S	White	500	22 to 16	0.046 (1.2) - 0.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-125-150-WT-S-**	White	500	22 to 16	0.046 (1.2) - 0.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-187-150-WT	White	2,500	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-187-150-WT-**	White	2,500	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-187-150-WT-S	White	500	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-187-150-WT-S-**	White	500	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-250-150-WT	White	2,500	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-250-150-WT-**	White	2,500	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-250-150-WT-S	White	500	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-250-150-WT-S-**	White	500	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-375-150-WT	White	1,000	12 to 4	0.125 (3.2) - 0.320 (8.13)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-375-150-WT-**	White	1,000	12 to 4	0.125 (3.2) - 0.320 (8.13)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-375-150-WT-S	White	250	12 to 4	0.125 (3.2) - 0.320 (8.13)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-375-150-WT-S-**	White	250	12 to 4	0.125 (3.2) - 0.320 (8.13)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-500-150-WT	White	500	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-500-150-WT-**	White	500	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602
PS-500-150-WT-S	White	250	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) ± .003 (0.07)	1.500 (38.1)	PR Plus, IP	R4300/ R6602
PS-500-150-WT-S-**	White	250	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) ± .003 (0.07)	--	PR Plus, IP	R4300/ R6602

**\*Choosing Your PermaSleeve Color**

While white is a standard color, additional colored sleeves are available as custom order as well. Simply replace "WT" with the abbreviation of the desired color to order.  
*Example: PS-094-150-WT-S becomes PS-094-150-RD-S*

**Available Colors:** (Contact Brady Customer Service for availability)

WT = White	BR = Brown	OR = Orange	VT = Violet
BK = Black	GR = Green	PK = Pink	YL = Yellow
BL = Blue	GY = Gray	RD = Red	

**\*\* Choosing Your PermaSleeve Pieces (optional):**

While 1 or 2 markers per sleeve is standard, you may also choose to have each sleeve slit multiple times to produce multiple pieces. Simply replace the double asterisks (\*\*) in the catalog number to fill in your desired pieces per marker.  
*Example: PS-187-150-WT-S-\*\* becomes PS-187-150-WT-S-4*  
 This "4" means that this 2.000" sleeve is slit into four 0.500" pieces.






<b>Standard Options:</b> 1 or 2 markers per sleeve	<b>Other Available Slit Options:</b> 3 or 4 markers per sleeve (Contact Brady Customer Service for availability)
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## Master Material Index

This section provides a quick reference to Brady materials listed throughout this catalog, including basic attributes, applications and regulatory compliance where applicable.

For more detailed material attribute and performance information, please refer to the material's Technical Data Sheet, listed at [BradyID.com/techdata](http://BradyID.com/techdata).

	RoHS compliant material
	UL approved material*
	Materials evaluated to Canadian safety requirements
	CSA approved materials*
	Materials have static dissipative adhesives

Refer to page 235 for more information and complete listing of approved materials.

B-Number	Material	Finish	Color	Temperature Range	Performance Attributes	Properties & Applications	
 B-103	Polyester	Gloss	Clear	-94°F to 230°F	  	Clear polyester overlaminating tape offers additional protection against dirt, chemicals and abrasion on already printed materials.	RoHS
B-109†	Tag Material	Matte	White	-40°F to 120°F (-40°C to 49°C)	  	General-purpose tagging material with excellent tear- and chemical- resistance. Exhibits good weatherability, humidity resistance, and legibility after solvent exposure.	RoHS
B-145	Polypropylene	Matte	Gray	-40°F to 212°F (-40°C to 100°C)	 	Rigid polypropylene material can be used for a variety of tag applications including identification of multiconductor cables, inventory, equipment, lockout, safety warning repair and work-in-progress.	RoHS
B-321	Polyolefin	Matte	White	-40°F to 248°F (-40°C to 120°C)	  	Heat Shrinkable Wire Marker is a dot matrix printable wire and cable heat-shrinkable sleeve. Excellent resistance to oil and solvents.	RoHS
B-330	Polyolefin	Matte	White or Yellow	-94°F to 230°F (-70°C to 110°C) 24 hrs at 248°F (120°C)		Heat-shrinkable polyolefin film with a heat-activating adhesive. Can also be used without heat activation. A 72 hour dwell is recommended when product is not heat activated. To be used for identification of wire bundles, large conduits, and installed cables.	
B-342	Sleeve Material	Matte	White, Yellow, Black, Red, Blue, Green, Orange, Gray, Pink, Violet, Brown	-40°F to 267°F (-40°C to 130°C) 24 hrs at 350°F (180°C) 5 min at 500°F (260°C)	 	Heat-shrinkable sleeve with a 3:1 shrink ratio for wire and cable identification. Meets the material and physical property requirements of SAE AMS-DTL-23053/5C (class 1) for Insulation Sleeving and SAE AS-81531 for Marking of Electrical Insulating Materials, and MIL-STD-202.	RoHS
B-345	PVDF	Matt	Black, White, Yellow, Pink, Blue	-67°F to 437°F (-55°C to 225°C)	  	Irradiated polyvinylidene fluoride heat shrink tubing. Recommended for high temperature and low outgassing applications.	
 B-350	Polyester/Paper	Gloss	White	-94°F to 194°F (-70°C to 90°C)	  	Provides clear evidence of exposure to water for controlling invalid warranty claims, failure analysis or troubleshooting (service and repair).	 RoHS
 B-351	Vinyl	Matte	White	-40°F to 212°F (-40°C to 100°C)	  	Tamper-resistant film with a permanent acrylic adhesive. Good resistance to solvents and humidity. Designed to fracture easily to prevent one-piece removal.	 RoHS
B-358	Acetate	Gloss	Clear	-94°F to 176°F (-70°C to 80°C) 5 min at 302°F (150°C)		Tamper resistant film with a permanent acrylic adhesive. Designed to fracture easily when removal is attempted. For use as package seals/closures.	RoHS
 B-362	Metallized Vinyl	Matte	Silver	-40°F to 176°F (-40°C to 80°C)	  	Tamper-resistant metallized film. Good resistance to solvents and humidity. Designed to fracture easily to prevent one-piece removal.	 RoHS
 B-367 (Custom orders only)	Polypropylene	Gloss	Custom	-94°F to 194°F (-70°C to 90°C)	  	Leaves a customized footprint pattern (i.e. logos, special warnings, instructions) when label is removed, and pattern will appear on the top surface of the label in order to prevent it from being reused.	 RoHS
B-390	Polypropylene	Matte	White	-40°F to 212°F (-40°C to 100°C)	  	Wire marking carrier inserts that are designed to be printed and affixed to a wire using extruded, clear PVC Wire Marking Carriers.	RoHS
B-402	Paper	Matte	White	-94°F to 158°F (-70°C to 70°C)		Thermal transfer-printable paper with permanent adhesive. Applications in general labeling and bar code labeling. Aggressive adhesive for bonding to corrugated, films, plastic and steel surfaces.	RoHS
 B-407	Polyolefin	Matte	Translucent	-94°F to 194°F (-70°C to 90°C)	  	General purpose label for applications that require thermal transfer printable materials. Recommended for outdoor use.	RoHS
B-408	Paper	Matte	White	25°F to 158°F (4°C to 70°C)		Bar code and general labeling. Repositionable adhesive.	RoHS
B-411	Tag Material	Matte	White	-40°F to 122°F (-40°C to 50°C)		Designed printing in harsh environments. Resistant to water and chemicals. Not recommended for outdoor applications. Tag material designed for general purpose marking.	RoHS