C&S Companies
499 Col Eileen Collins Blvd.
Syracuse, New York 13212-3930
Phone: (315) 455-2000
Fax: (315) 455-9667

Project: 128.060.001 - Dutchess Stadium New Clubhouse & Improvements
1500 NY-9D
Wappingers Falls, New York 12590

Identification for Electrical Systems - Product Information

SPEC SECTION:	260553 - Identification for Electrical Systems	**SUBMITTAL MANAGER:**	Kara Mearon **(C&S Engineers Inc.)**
STATUS:	Submitted	**DATE CREATED:**	03/13/2023
ISSUE DATE:		**REVISION:**	0
RESPONSIBLE CONTRACTOR:	Piazza Brothers Construction	**RECEIVED FROM:**	Julianna LoPriore
RECEIVED DATE:	04/10/2023	**SUBMIT BY:**	
FINAL DUE DATE:	04/24/2023	**LOCATION:**	
TYPE:	Product Information	**COST CODE:**	
APPROVERS:	Allen Schmidt **(DLR Group)**, Sarah Treas **(DLR Group)**		

BALL IN COURT:
Allen Schmidt **(DLR Group)**, Sarah Treas **(DLR Group)**

DISTRIBUTION:

DESCRIPTION:

ATTACHMENTS:

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
1	Damon Baxter	Submitter		1/8/2024		Pending		
2	Gus Carvajal	Submitter		1/8/2024		Pending		
3	Julianna LoPriore	Submitter		1/8/2024	4/10/2023	Submitted	Identification(TBS) -Upstate Electric- 260553.pdf	
4	Allen Schmidt	Approver	4/10/2023	4/24/2023		Pending		
5	Sarah Treas	Approver	4/10/2023	4/24/2023		Pending		

Architect/Engineer Approval:

☐ (A) Approved

☐ (A/N) Approved As Noted

☐ (RR) Revise and Resubmit

☐ (REJ) Rejected

☐ (SUB) Submit Specified Item

Checking is only for general compliance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the jobsite; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

Reviewed by: _____

Date: _____

DLRGROUP
Submittal Review

Project Name:	Dutchess Stadium Left Field Building
Project Number:	57-21113-01
Submittal ID:	260553-1.0
Received On:	4/11/2023
Reviewed On:	4/14/2023
Reviewed By:	Collin Wheeler

Action:	Furnish As Corrected

This review is for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility. The Architect's review shall not constitute approval of safety precautions or construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. The Architect's comments, notes or corrections are not an authorization to proceed with Work involving a change in the Contract Sum, the Contract Time or both. If any portion of this review requires a change to the Work, an appropriate change instrument must be executed in accordance with the Contract Documents.

* Equipment labeling shall include information outlined in detail 6/E6.2ii.

* Refer to comments on following pages.

BY _____   DATE _____   COPIES TO _____

SUBMITTAL COVER SHEET

From:	Julianna LoPriore	**Attn:** Tim Brown
Company:	Piazza, Inc.	**C&S Companies**
Phone/Fax #:	(914)741-4435	**499 Col. Eileen Collins Blvd.**
Project:	Dutchess Stadium	**Syracuse, NY 13212**
Project #:	RFB-DCB-18-22	**(315) 455-2000; Fax: 455-9577**

Reference: CSI Code: __260553__   Dwg No: _____

Paragraph: _____   Other: _____

Description: Identification

Supplier: Upstate Electric

Manufacturer: _____

Item Type:

_____	Product Data	_____	Manf. Cert/Warranty
_____	Shop Drawings	_____	Samples
__x__	Other: Technical Data		

Contractor's Approval:

_____ Reviewed for general compliance of specifications.

_____ This submittal is a **_substitute_** to the specified product.

__x__ For Architects / Engineers Approval

This is our __1st__ submittal for this item.

We are submitting _____ copies.

Contractor Submittal Review Stamp

THE ATTACHED MATERIAL HAS BEEN REVIEWED BY THE UNDERSIGNED AND IS BELIEVED TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE UNDERSIGNED UNDERSTANDS VERIFICATION OF FIELD DIMENSIONS, AND COORDINATION WITH OTHER TRADES, REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

Submitted by: Piazza, Inc.

Digitally signed by Piazza, Inc.
DN: C=US, E=julianna@piazzabrothers.com, OU="Piazza, Inc.", O="Piazza, Inc.", CN="Piazza, Inc."
Date: 2023.03.15 15:04:38-04'00'

Date: 4/10/2023
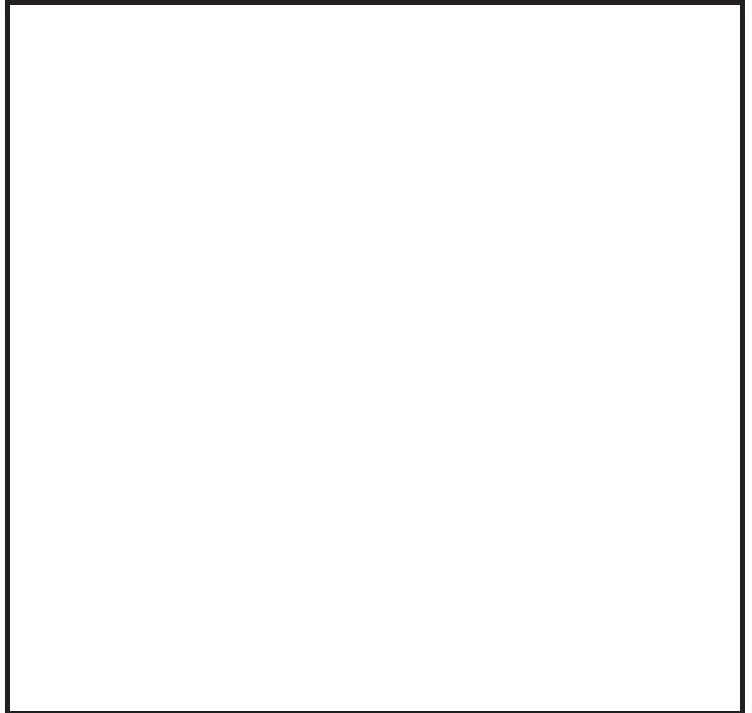
*Note: Provide one cover sheet for each copy of the submittal.

Electrical Tapes Product Selection Guide

Trusted by generations of electrical professionals

3M Electrical Tapes Chart
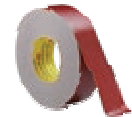
Vinyl Electrical Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Super 33+™ Professional Grade Vinyl Electrical Tape		Highly conformable, super stretchy in all weather applications; resists UV rays, abrasion, corrosion, alkalies and acids. Primary insulation for splices up to 600V. Protective jacketing.	7 mil	105°C 221°F	3/4" x 76' (19 mm x 23,1 m) 3/4" x 44' (19 mm x 13,4 m) 3/4" x 20' (19 mm x 6,0 m) 3/4" x 36 yd (19 mm x 32,9 m) 1" x 36 yd (25,4 mm x 32,9 m) 1-1/2" x 36 yd (38 mm x 32,9 m)
Scotch® Heavy Duty Grade Vinyl Electrical Tape Super 88		All weather; heavy duty, professional use, abrasion resistant, fast build up. Primary insulation for splices up to 600V. Protective jacketing.	8.5 mil	105°C 221°F	3/4" x 66' (19 mm x 20,1 m) 3/4" x 44' (19 mm x 13,4 m) 3/4" x 36 yd (19 mm x 32,9 m) 1" x 36 yd (25,4 mm x 32,9 m) 1-1/2" x 36 yd (38 mm x 32,9 m) 1-1/2" x 44' (38 mm x 13,4 m) 2" x 36 yd (51 mm x 32,9 m)
Scotch® Professional Grade Color Coding Vinyl Electrical Tape 35		Nine fade-resistant colors, super stretchy and conformable, excellent insulating properties. Resists abrasion, corrosion, alkalies and acid. Phase identification and marking. Harnessing.	7 mil	105°C 221°F	3/4" x 60' (19 mm x 18,2 m) 1/2" x 20' (12 mm x 6,1 m) 3/4" x 66' (19 mm x 20,1 m) 1/2" x 20' (12 mm x 6,1 m)
3M™ Temflex™ Vinyl Electrical Tape 165		Ten Colors that offer reliable performance for protective jacketing, harnessing, marking and insulating low voltage cables in non-critical applications.	6 mil	90°C 194°F	3/4" x 60' (19 mm x 18 m)
3M™ Temflex™ Vinyl Electrical Tape 175		Thicker for tough, demanding general use applications such as protective jacketing, harnessing and insulating low voltage cables.	7 mil	90°C 194°F	3/4" x 60' (19 mm x 18 m)
Scotch® Extra Heavy Duty Grade Vinyl Electrical Tape 22		Thicker for increased mechanical strength and abrasion resistance. Electrical insulating. Bus bar insulation. Cable jacket repair.	10 mil	80°C 176°F	1/2" x 36 yd (13 mm x 32,9 m) 3/4" x 36 yd (19 mm x 32,9 m) 1" x 36 yd (25,4 mm x 32,9 m) 1-1/2" x 36 yd (38 mm x 32,9 m) 2" x 36 yd (51 mm x 32,9 m)
3M™ Temflex™ Mining Grade Vinyl Electrical Tape 1700P		Insulate and repair mining cable jacketing. Flame retardant. Printed for use in MSHA-approved splicing kits.	7 mil	80°C 176°F	3/4" x 66' (19 mm x 20,1 m) 1-1/2" x 44' (38 mm x 13,4 m) 1-1/2" x 66' (38 mm x 20,1 m)

Most 3M Electrical Markets Division Products are RoHS Compliant 2011/65/EU. Certification available on www.3M.com/rohs.

Insulating and Splicing Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Professional Grade Linerless Rubber Splicing Tape 130C		High voltage insulating; thermally conductive; self-bonding. Primary electrical insulation for splicing all solid dielectric cables through 69kV.	30 mil	continuous: 90°C / 194°F short-term: 130°C / 266°F	1" x 30' (25 mm x 9,1 m) 3/4" x 30' (19 mm x 9,1 m) 1-1/2" x 30' (38 mm x 9,1 m) 2" x 30' (50 mm x 9,1 m) 1" x 10' (25 mm x 3,05 m) 1" x 15' (25 mm x 4,6 m)
Scotch® Professional Grade Linered Rubber Splicing Tape 23		High and low voltage insulation, self-fusing rubber tape. Primary electrical insulation for splicing all solid dielectric cables through 69kV.	30 mil	continuous: 90°C / 194°F short term: 130°C / 266°F	3/4" x 30' (19 mm x 9,1 m) 1" x 20' (19 mm x 25 m) 1" x 30' (25 mm x 9,1 m) 1-1/2" x 30' (38 mm x 9,1 m) 2" x 30' (50 mm x 9,1 m)
Scotch® Mid-Grade Linerless Rubber Splicing Compound 2242		General purpose rubber insulating tape. Splicing, jacketing and general insulating.	30 mil	continuous: 90°C / 194°F short-term: 130°C / 266°F	3/4" x 15' (19 mm x 4,56 m) 1-1/2" x 15' (38 mm x 4,56 m) 2" x 15' (51 mm x 4,56 m)
3M™ Temflex™ Mid-Grade Linered Rubber Splicing Tape 2155		Economical low voltage rubber insulating tape; self-fusing. Insulating wire splices, split bolt connections and motor leads up to 600V.	30 mil	80°C 176°F	3/4" x 22' (19 mm x 6,7 m) 1-1/2" x 22' (38 mm x 6,7 m)
Scotch® Professional Grade Semi-Conducting Tape 13		Rubber tape, semi-conductive. Compatible with cable semi-conducting jackets. Electrically round high voltage connections. Provide cable shield continuation.	30 mil	continuous: 90°C / 194°F short term: 130°C / 266°F	3/4" x 15' (19 mm x 4,5 m) 1-1/2 × 66' (38 mm x 20,1 m)
Scotch® Professional Grade Shielding Tape 24		All metal open weave shielding braid, conformable, temperature stable. Continue electrostatic shielding across splice.	—	—	1" x 15' (25 mm x 4,5 m) 1" x 100' (25 mm x 30,5 m) 2" x 10' (51 mm x 3,05 m)
Scotch® Professional Grade Grounding Braid 25		All metal woven braid; high current carrying capacity of 6 AWG wire; solderable. Conformable ground braid for splices and terminations.	—	—	1/2" x 15' (12 mm x 4,57 m)
Scotch® Professional Grade Silicone Rubber Tape 70		Arc and track resistant; self fusing, long lasting silicone rubber. Protective overwrap for terminating high voltage cables against arcing and tracking.	12 mil	180°C 356°F	1" x 30' (25 mm x 9,14 m)
Scotch® Professional Grade Heavy Duty Triangular Silicone Rubber Tape 70HDT		Arc and track resistant; self fusing, long lasting silicone rubber, triangular tapered edge profile and a blue guideline. Protective overwrap for terminating high voltage cables against arcing and tracking.	20 mil center, 8 mil edge	180°C 356°F	1" x 30' (25 mm x 9,14 m)

Insulating and Splicing Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Fire and Electric Arc Proof Professional Grade Tape 77 Black		Protects cable from arc and fire until limiting devices can interrupt faulted circuit. Use on high-energy cables that are within 18" of other high energy cables.	30 mil	—	1-1/2" x 20' (38 mm x 6,1 m) 3" x 20' (76 mm x 6,1 m)
Scotch® Fire and Electric Arc Proof Professional Grade Tape 77 White		Protects cable from arcs and fire until limiting devices can interrupt faulted circuit. Use on high-energy cables that are within 18" of other high energy cables. Easily visible, easy inspection.	30 mil	—	1-1/2" x 20' (38 mm x 6,1 m) 3" x 20' (76 mm x 6,1 m)
Scotch® Varnished Cambric Professional Grade Tape 2510 and 2520		Yellow, varnish coated cotton cloth 2510: no adhesive; 2520: adhesive. Insulate bus bars, motor leads (for re-entry), service drop connections.	2510 is 7 mil 2520 is 8 mil	105°C 220°F	3/4" x 60' (19 mm x 18,3 m) 3/4" x 36 yd (19 mm x 33 m) 1" x 36 yd (25 mm x 33 m) 1-1/2" x 36 yd (38 mm x 33 m) 2" x 36 yd (51 mm x 33 m) 36" x 25 yd (914,4 mm x 22,9 m) 2510 only
Sealing and Insulating Tapes		**Product Description/Applications**	**Thickness**	**Max. Temp.**	**Roll Size**
Scotch® Professional Grade Vinyl Mastic Sealing Tapes 2200, 2210, 06147, and 06149		Excellent moisture sealant; tough vinyl backing; electrical insulating. Insulate moisture-seal and pad connections up to 600V.	2200 is 125 mil 2210 is 90 mil 6147 is 45 mil 6149 is 45 mil	80°C 176°F	6-1/2" x 4-1/2" (165 mm x 114 mm) pads 3-1/4" x 4-1/2" (82 mm x 114 mm) pads 4" x 10' (101 mm x 3,04 m) 2-1/2" x 10' (63 mm x 3,04 m) 2-1/2" x 2-1/2" (63 mm x 63 mm) pads
Scotch® Professional Grade Rubber Mastic Sealing Tape 2228		Self-fusing rubber based compound bonded to a moisture sealing mastic; all weather. Insulate, pad and seal bus bar and splice connections.	65 mil	90°C / 194°F emergency overload of 130°C / 266°F	2" x 3' (50 mm x 0,9 m) 1" x 10' (25 mm x 3,0 m) 2" x 10' (51 mm x 3,05 m)
3M™ Scotch-Seal™ Professional Grade Mastic Sealing Tape 2229		Conformable and durable mastic. Excellent moisture and environmental seal. Sealing high voltage cables and accessories.	125 mil	80°C 176°F	3-3/4" x 10' (95 mm x 3,0 m) 1" x 10' (25 mm x 3,05 m)
Scotch® Cable Jacket Repair Professional Grade Tape 2234		Tough, black, abrasion and chemical-resistant backing laminated to a moisture sealing mastic for jacket repair on industrial cables.	60 mil	105°C 221°F	2" x 6' (51 mm x 1,82 m)
3M Scotchfil® Electrical Insulation Putty		Self-fusing, insulating putty in tape form. Smooths over irregular shapes and pads sharp edges.	125 mil	80°C 176°F	1-1/2" x 60" (38 mm x 1,53 m)

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Corrosion Protection Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
3M™ Scotchrap™ Professional Grade Corrosion Protection Tapes 50 and 51		All-weather performance and corrosion resistance. Resistant to impact and abrasions. Corrosion protection on pipes, conduits and fittings, etc.	50 is 10 mil 51 is 20 mil	80°C 176°F	1" x 100' (25 mm x 30,5 m) 2" x 100' (51 mm x 30,5 m) 3" x 100' (76 mm x 30,5 m) 4" x 100' (102 mm x 30,5 m) 6" x 100' (152 mm x 30,5 m)
3M™ Scotchrap™ Professional Grade Pipe Primer		Quick-dry, non-sag rubber base primer that prepares metal surfaces for tape application. For use with 3M Scotchrap tapes 50 and 51 and 3M™ Temflex™ Tape 1100.	N/A	80°C 176°F	1 gallon can (3,79 liters)
3M™ Temflex™ Economy Grade Corrosion Tape 1100 and 1100P		General purpose corrosion resistant tape. Good abrasion resistance. Corrosion protection on conduits, fittings and joints, etc.	10 mil	80°C 176°F	2" x 100' (51 mm x 30, 5 m)
3M™ Temflex™ Economy Grade Corrosion Tape 1200 and 1200P		General purpose corrosion resistant tape. Good abrasion resistance. Corrosion protection on conduits, fittings and joints, etc.	20 mil	80°C 176°F	2" x 100' (51 mm x 30, 5 m)

Special Use Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Heavy Duty Mining Professional Grade Tape 31		Tough, abrasion-resistant backing laminated to a moisture sealing mastic for jacket repair on mining cables. MSHA-approved.	60 mil	105°C 221°F	2" x 6' (51 mm x 1,8 m) 2" x 8.5' (51 mm x 2,6 m) 2" x 10' (51 mm x 3,05 m)
Scotch® Thread Sealant and Lubricant Tape 48		Pipe thread sealant that provides a leak proof seal. Helps prevent cross threading on pipe threads.	3 mil	260°C 500°F	1/4" x 260" (6,3 mm x 7 m) 1/2" x 260" (13 mm x 7 m) 1/2" x 520" (13 mm x 13 m) 1/2" x 1296" (13 mm x 33 m)
Scotch® Glass Cloth Tape 27 and 69		Woven insulating glass cloth; high temperature resistance; high mechanical strength. Heat-stable insulation for furnace and oven controls, motor leads and switches.	27 is 7 mil 69 is 7.5 mil	27 is class B temp (130°C / 266°F) 69 is class H temp (180°C / 356°F)	1/2" x 66' (12 mm x 20,1 m) 3/4" x 66' (19 mm x 20,1 m) 3/4" x 60 yd (19 mm x 54,8 m) 1" x 60 yd (25 mm x 54,8 m) 1-1/2" x 60 yd (38 mm x 54,8 m) 1/2" x 36 yd (13 mm x 33 m) 3/4" x 36 yd (19 mm x 33 m) 1" x 36 yd (25 mm x 33 m)
Scotch® Barricade Tape 300 Series		Durable polyethylene plastic, bold 2" letters, long roll length, will not tear easily, attracts attention. Barricade applicable in both large and small areas. Available in various sizes, thicknesses and with different warning messages.	2 mil 3 mil 4 mil	N/A	3" x 300' (76 mm x 91,4 m) 3" x 1000' (76 mm x 304,8 m)
Scotch® Detectable Buried Barricade Tapes 400 Series		Designed for accurately locating underground assets to help prevent damage to underground installations. Aluminum backing detectable with metal detector.	5 mil	N/A	3" x 1000' (76 mm x 304,8 m) 6" x 1000' (152 mm x 304,8 m)

Special Use Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Repulpable Barricade Tapes 500 Series		Reusable tape made of tightly-woven cotton fibers. For indoor applications.	N/A	N/A	3" x 150' (76 mm x 45,7 m)
3M™ Temflex™ Cotton Friction Tape 1755		High grade friction tape. Good abrasion resistance. Abrasion protection for splices and connections. Wire bundling.	13 mil	80°C 176°F	3/4" x 60' (19 mm x 18,28 m) 3/4" x 82-1/2' (19 mm x 25 m) 1-1/2" x 82-1/2' (38 mm x 25 m)
3M™ Value Masking Tape 101+		Cost effective masking tape. For indoor light-duty applications	5.1 mil	Up to 79°C 175°F	1" x 60 yd (24 mm x 55 m) 1-1/2" x 60 yd (36 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
3M™ General Use Masking Tape 201+		General use masking tape. For light and medium-duty applications.	4.4 mil	Up to 93°C 200°F	1" x 60 yd (24 mm x 55 m) 1-1/2" x 60 yd (36 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
3M™ Performance Yellow Masking Tape 301+		Industrial-strength performance masking tape. For paint masking, bundling, holding and identifying applications.	6.3 mil	Up to 93°C 200°F	1" x 60 yd (24 mm x 55 m) 1-1/2" x 60 yd (36 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
3M™ High Performance Green Masking Tape 401+		Industrial-strength high performance masking tape. For critical paint masking applications.	6.7 mil	Up to 107°C 225°F	1" x 60 yd (24 mm x 55 m) 1-1/2" x 60 yd (36 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
3M™ Specialty High Temperature Masking Tape 501+		Specialty high-temperature masking tape. For super sharp paint lines and critical paint masking applications — Temperature use range up to 300°F (149°C) for 30 minutes.	7.3 mil	Up to 149°C 300°F	1" x 60 yd (24 mm x 55 m) 1-1/2" x 60 yd (36 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
Scotch® High Performance Masking Tape 232		Excellent paint masking tape. Holding, bundling and protecting.		Up to 121°C 250°F	3/4" x 60 yd (18 mm x 55 m) 1" x 60 yd (24 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
Scotch® General Purpose Masking Tape 234		Designed for non-critical masking. Holding, bundling and protecting.		Up to 121°C 250°F	3/4" x 60 yd (18 mm x 55 m) 1" x 60 yd (24 mm x 55 m) 2" x 60 yd (48 mm x 55 m)
3M™ Paper Tape 200		Utility purpose paper tape. Non-critical masking and holding.		93°C 200°F	1/2" x 60 yd (12 mm x 55 m) 3/4" x 60 yd (18 mm x 55 m) 1" x 60 yd (24 mm x 55 m) 1-1/2" x 60 yd (36 mm x 55 m) 2" x 60 yd (48 mm x 55 m) 3" x 60 yd (72 mm x 55 m) 4" x 60 yd (96 mm x 55 m)

Special Use Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
3M™ Performance Plus Duct Tape 8979		Clean removal for up to 6 months outdoors. Moisture resistant. UV resistant backing for up to 1-year of outdoor exposure. Sealing, holding, bundling, reinforcing, identifying, tabbing, wrapping, paint masking, splicing and protecting.		93°C 200°F	1.88" x 60 yd (48 mm x 54,8 m)
3M™ Performance Plus Duct Tape Nuclear Grade 8979N		6 month clean removal duct tape. UV resistant for up to one year. Critical containment for utilities and nuclear power plants.	12.6 mil	93°C 200°F	1.88" x 60 yd (48 mm x 54,8 m) 2.83" x 60 yd (72 mm x 54,8 m)
3M™ Extra Heavy Duty Duct Tape 6969		Industrial strength duct tape that is abrasion and moisture resistant. Aggressive adhesive for a good quick stick to many surfaces.	10.7 mil	93°C 200°F	1.88" x 60 yd (48 mm x 54,8 m) 2.83" x 60 yd (72 mm x 54,8 m)
3M™ Heavy Duty Duct Tape 3939		Used for demanding duct tape applications. High tack adhesive for a good, quick stick to many surfaces. Conformable and moisture resistant backing that tears easily by hand. Sealing, holding, bundling, reinforcing, identifying, tabbing, wrapping, splicing and protecting.	9 mil	93°C 200°F	.94" x 60 yd (24 mm x 54,8 m) 1.88" x 60 yd (48 mm x 54,8 m) 2.83" x 60 yd (72 mm x 54,8 m) 3.77" x 60 yd (96 mm x 54,8 m)
3M™ Multi-Purpose Duct Tape 3900		General purpose duct tape. Available in seven colors for color-coding jobs. Maintenance and repair, pulling wires through conduit.	7.7 mil	93°C 200°F	1.88" x 60 yd (48 mm x 54,8 m)
3M™ General Use Duct Tape 2929		Utility grade duct tape. Moisture resistant. Sealing, holding, bundling, and identifying.	6 mil	93°C 200°F	1.88" x 50 yd (48 mm x 45,7 m) 2.83" x 50 yd (72 mm x 45,7 m)
3M™ Vinyl Duct Tape 3903		General purpose duct tape made from hand tearable embossed vinyl backing coated with rubber adhesive. Available in seven colors for color coding.	6.3 mil	Up to 121°C 250°F	2" x 50 yd (50 mm x 45,7 m)
3M™ Value Duct Tape 1900		Economical duct tape choice. Quick easy tear.	5.8 mil	93°C 200°F	1.88" x 50 yd (48 mm x 45,7 m) 2.83" x 50 yd (72 mm x 45,7 m)
3M™ Outdoor Masking and Stucco Tape 5959		Designed for construction, marine and maintenance applications. Clean removal up to 90 days outdoors. Moisture and UV resistant. Strong conformable backing.	12 mil	93°C 200°F	1.88" x 45 yd (48 mm x 41,1 m)

Special Use Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
3M™ Cloth Gaffers Tape 6910		Low light reflectance backing. High strength, conformable and moisture resistant backing. Holding cords, splicing, waterproofing, bundling, tying, sealing and protecting.	12 mil	Up to 93°C 200°F	1.88" x 60 yd (48 mm x 54,8 m)
Scotch® Tough Duct Tape- Heavy Duty All-Weather		A heavy-duty duct tape designed for long term, permanent, exterior repairs. Resists drying, cracking and peeling caused by the damaging effects of sunlight, heat, cold, and moisture. Lasts three times longer than other 3M heavy-duty gray duct tapes in exterior conditions.	9.5 mil	Up to 66°C 150°F	1.88" x 45 yd (48 mm x 40 m)
Scotch® Tough Duct Tape- Transparent		Breakthrough 3M technology made this tape the first transparent duct tape on the market. It virtually disappears when applied, making repairs less obvious. Not just for indoor use, this tape lasts longer than other 3M heavy-duty gray duct tapes. With an improved adhesive formulation, it has high stick and excellent holding power.	9 mil	173°F	1.88" x 20 yd (48 mm x 18 m)
Scotch® Electricians Bundling Tape 2000		General purpose easy tear vinyl duct tape. General holding and bundling.	6 mil	220°F (105°C)	2" x 50 yd (51 mm x 46 m)
Scotch® Professional HVAC Duct Tape 133DC		Aggressive adhesive for air and moisture, light industrial, and HVAC applications. Wrapping pipes, sealing ducts, general repairs.	10 mil	93°C 200°F	1.88" x 60 yd (48 mm x 54,8 m)
3M™ FSK Facing Tape 3320 Silver		Designed for sealing rigid and blanket style fiberglass duct insulation and mineral wool foil faced insulation. Repair tears in foil backed insulation. UL723 Classified.	6.7 mil	79°C 175°F	1.88" x 50 yd (48 mm x 45,7 m) 2.83" x 50 yd (72 mm x 45,7 m) 3.89" x 50 yd (99 mm x 45,7 m)
3M™ Foil Tape 3340 Silver		High Strength foil tape printed with UL listed label. Specifically designed for use fiberglass duct board systems. Use with rigid glass fiber air duct board (181A-P) and flexible (non-metallic) air ducts and air connectors (181B-FX). UL® Listed meets requirements of UL 181A-P and UL 181 B-FX.	4.0 mil	121°C 250°F	2.5" x 50 yd (63 mm x 45,7 m)

Special Use Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
3M™ Metalized Flexible Duct Tape 3350 Silver		Printed metalized film with UL listed label. Ideal for closure systems for sealing flexible air ducts and air connectors. Secure flex duct to duct wrap facings and metal to metal connections. UL® Listed meets requirements of UL181 B-FX.	3.1 mil	110°C 230°F	1.88" x 120 yd (48 mm x 109,6 m)
3M™ Foil Tape 3381 Silver		General purpose HVAC tape for sealing fibrous and sheet metal ducts. UL723 Classified.	2.7 mil	121°C 250°F	1.88" x 50 yd (48 mm x 45 m)
3M™ Roof and Gutter Repair Tape 3382 Silver		General purpose flashing and gutter repair. Waterproof.	4.2 mil	121°C 250°F	1.88" x 10.9 yd (48 mm x 109,6 m)

Packaging and Palletizing Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Premium Heavy Duty Packaging Tape 3750		Superior performance packaging tape used for heavy duty packaging applications. Single strip closure of regular slotted containers.	3.2 mil	Short term: 65°C 151°F	1-4/5" x 54 yd (48 mm x 50 m)
Scotch® Printed Message Box Sealing Tape 3732 and 3734		3732- "If Seal is Broken Check Contents Before Accepting"; "3734- "Fragile Handle with Care"; tan with red printing. Box sealing tapes with warnings.	2.5 mil	N/A	1.88" x 55 yd (48 mm x 50 m)
Scotch® Packaging Sealing Tape 3710		Commercial grade box sealing tape. General purpose closure of regular slotted containers (RSCS).	2 mil	Short term: 65°C 151°F	1-4/5" x 54 yd (48 mm x 50 m) 1-4/5" x 109 yd (48 mm x 100 m)
Scotch® Box Sealing Tape Dispenser H122		Box sealing tape dispenser.	N/A	N/A	2" (50,8 mm)
Scotch® Premium Heavy Duty Packaging Tape 3750		Superior performance packaging tape used for heavy duty packaging applications. Single strip closure of regular slotted containers.	3.2 mil	Short term: 65°C 151°F	1-4/5" x 54 yd (48 mm x 50 m)
Scotch® Printed Box Sealing Tape 3771, 3772, 3775		3771- "If Seal is Broken Check Contents Before Accepting"; 3772- "Fragile Handle with Care"; 3775- "Mixed Merchandise Enclosed". General purpose box sealing tapes and identification.	1.9 mil	N/A	1.88" x 109 yd (48 mm x 100 m)

Packaging and Palletizing Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Printed Message Box Sealing Tape 3732 and 3734		3732- "If Seal is Broken Check Contents Before Accepting"; 3734- "Fragile Handle with Care"; tan with red printing. Box sealing tapes with warnings.	2.5 mil	N/A	1.88" x 55 yd (48 mm x 50 m)
Scotch® Packaging Sealing Tape 3710		Commercial grade box sealing tape. General purpose closure of regular slotted containers (RSCS).	2 mil	Short term: 65°C 151°F	1-4/5" x 54 yd (48 mm x 50 m) 1-4/5" x 109 yd (48 mm x 100 m)
Scotch® Box Sealing Tape Dispenser H122		Box sealing tape dispenser.	N/A	N/A	2" (50,8 mm)
Scotch® Printed Box Sealing Tape 3771, 3772, 3775		3771- "If Seal is Broken Check Contents Before Accepting"; 3772- "Fragile Handle with Care"; 3775- "Mixed Merchandise Enclosed". General purpose box sealing tapes and identification.	1.9 mil	N/A	1.88" x 109 yd (48 mm x 100 m)
Scotch® Box Sealing Tape 371		Industrial packaging tape. Box sealing, splicing and recoverage.	1.9 mil	N/A	1.88" x 55 yd (48 mm x 50 m) 1.88" x 109 yd (48 mm x 100 m) 2.83" x 55 yd (72 mm x 100 mm) 2.83" x 109 yd (72 mm x 100 mm)
Scotch® Box Sealing Tape Dispenser H180		Box sealing roll-on dispensers.	N/A	N/A	2" (50,8 mm)
Scotch® Filament Tape 893		High strength filament reinforced strapping tape provides excellent resistance to nicks and abrasion. Box closing, palletizing, combining, box reinforcing, and general bundling.	6 mil	N/A	1/2" x 60 yd (13 mm x 55 m) 3/4" x 60 yd (19 mm x 55 m) 1" x 60 yd (25 mm x 55 m)
Scotch® Filament Tape 897		Polypropylene backing reinforced with glass yarn filaments with a synthetic rubber resin adhesive provide good shear strength and excellent resistance to nicks and abrasion. General industrial, automotive, food and beverage.	6 mil	50°C 120°F	1/2" x 60 yd (13 mm x 55 m) 3/4" x 60 yd (19 mm x 55 m) 1" x 60 yd (25 mm x 55 m)
Scotch® Filament Tape Hand Dispenser H10		Filament tape dispenser. Bundling and reinforcing.	N/A	N/A	1" (25 mm)

Packaging and Palletizing Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Label Protection Tape 821		Designed to protect labels. Allows for easy reading of barcodes and helps eliminate barcode errors.	2.5 mil	N/A	4" x 72 yd (10 cm x 66 m)
Scotch® Pouch Tape Sheets 8240		Clear polypropylene film with bright orange border printed message: DOCUMENTS ENCLOSED. Non-tacky center window portion covers important shipping information.	2.5 mil	N/A	5" x 6" (13 cm x 15 cm)
Scotch® Label Protection Tape 3565		Film is tough and resistant to edge tear, splitting, moisture abrasion and smudges. Excellent transparency makes labels easy to read. Adheres to a wide variety of surfaces.	1.9 mil	N/A	3.77" x 109 yd (100 mm x 100 m)
Scotch® Stretchable Tape 8884 and 8886		Tape stretches 600% for light to medium duty applications. After stretching, polyethylene backing increases in strength for bundling and strapping applications.	8884- 5 mil 8886- 6.6 mil	N/A	1.41" x 60 yd (36 mm x 55 m)

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Important Notice
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Product Source/Origin: The 3M supply location does not necessarily represent the Country of Origin for the product. If you require 3M product Country of Origin information, contact your local 3M Customer Service Representative for assistance.

3M

Electrical Markets Division
Austin, TX

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Scotch®

Detectable Buried Barricade Tapes 400 Series

Data Sheet	June 2010

Description	Scotch® Detectable Buried Barricade Tapes 400 Series are nominal 5-mil tapes, constructed of a solid aluminum foil backing with a clear film laminate. The aluminum backing helps make underground assets easier to locate when using a non-ferrous locator. These tapes are color-coded to meet or exceed the industry standards, including the American Public Works Association (APWA).
Agency Approvals & Self Certifications	Meets the requirements of: RoHS 2002/95/EC "RoHS Compliant 2002/95/EC" means that the product or part ("Product") does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2002/618/EC, unless the substance is in an application that is exempt under RoHS. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.
Typical Properties	Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Physical Property (Test Method)	Typical Value US units (metric)
Color and Width	Variable (see availability chart)
Thickness	5-mil
Length	1000 ft.
Maximum Detectable Burial Range*	2" – 6" to 12" 3" – 12" to 24" 6" – 22" to 30"
Tensile Strength at Break (ASTM D-882)	35 lbs/in (15,000 psi)
* The types of locators used have a direct input on the maximum detectable burial depth.	

Specifications	The tape shall be of good manufacturing quality in terms of appearance. It shall not gap or telescope more than 0.1 inches when stored at temperatures below 49°C. It must be flexible or not be stiff or brittle in applications ranging from below 0°C to about 38°C. The tape must be removable from the roll without difficulty. The tape shall be smooth, uniform, and free of defects and irregularities. The print shall be uniform, free of visibly large voids and foreign materials, and the lettering free of lumps. The warning words shall be legible, correctly spelled and fully printed. The ink shall be dry, firmly bonded to the substrate, and not transferable to non-printed parts of the film.
Shelf Life & Storage	This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

3M

Scotch® Detectable Buried Barricade Tape 400 Series

Availability   Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-245-3573.

Product	Text	Length	Color	Thickness	Width
Scotch 406	CAUTION BURIED ELECTRIC LINE BELOW	1000 ft.	Red	5-mil	3 in.
Scotch 408					6 in.
Scotch 407	CAUTION BURIED FIBER OPTIC LINE BELOW	1000 ft.	Orange	5-mil	3 in.
Scotch 409					6 in.
Scotch 410	CAUTION BURIED TELEPHONE LINE BELOW	1000 ft.	Orange	5-mil	3 in.
Scotch 411					6 in.
Scotch 412	CAUTION BURIED HIGH VOLTAGE CABLE BELOW	1000 ft.	Red	5-mil	3 in.
Scotch 413					6 in.
Scotch 414	CAUTION BURIED GAS LINE BELOW	1000 ft.	Yellow	5-mil	3 in.
Scotch 415					6 in.

> **PROVIDE BRIGHT POLYETHYLENE PRINTED TAPE (MINIMUM 6-IN WIDE, 4 MILS THICK) WITH CONTINUOUS EMBEDDED METALLIC CORE**

Important Notice   All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

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3M

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Signs, Labels & Solutions for a Safer Workplace

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Fax **800.345.7819**   Email **submittals@seton.com**
P.O. Box 458, Buffalo, NY 14240-0458

PRODUCT DATA SHEET

Setonflex® Engraved Plastic Equipment Nameplates

Description:	Engraved nameplates with beveled edges customized to your specifications.
Use:	For use in equipment labelling using bright colors for easy identification and color-coding of machinery, control panels, and switch boards.
Material:	Nameplates are with durable, high-quality thick satin-surfaced Setonflex® Plastic plates.
Standard Background/ Text Colors	Black Letters on Yellow White Letters on Green White Letters on Blue White Letters on Black White Letters on Red Black Letters on White Black Letters on Orange
Thickness:	Total 1/16" in. (1.6mm)
Gloss:	55 Gardner Units.
Mounting Method:	Two or four mounting holes, adhesive backing, or no mounting.

Standard Sizes/

Size	Max # of Lines
2-1/2"W x 3/4"H	3 lines
2-1/2"W x 1"H	4 lines
3"W x 1"H	4 lines
3"W x 3"H	4 lines
4"W x 1-1/2"H	4 lines
4"W x 2"H	4 lines
4"W x 4"H	6 lines
5"W x 3"H	4 lines
5"W x 5"H	6 lines
6"W x 3"H	4 lines
6"W x 4"H	4 lines
6"W x 6"H	6 lines
8"W x 4"H	4 lines
8"W x 8"H	8 lines
12"W x 4"H	4 lines
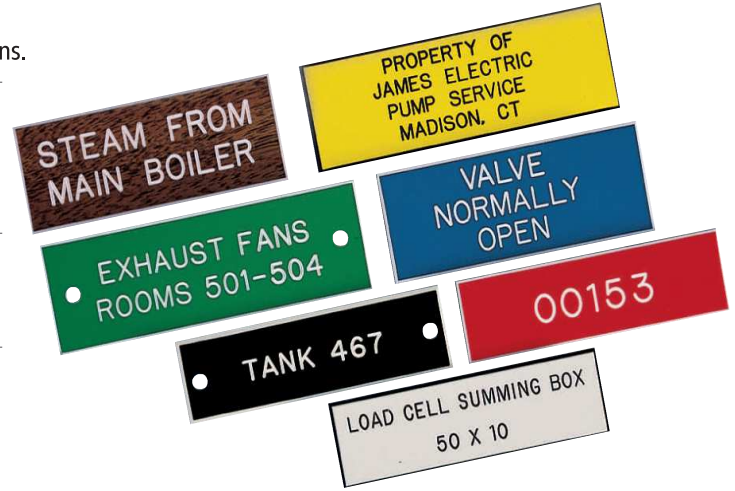
WHITE LETTERS ON BLACK BACKGROUND OR BLACK LETTERS ON WHITE BACKGROUND LABELS

INCLUDE ALL INFORMATION AS SHOWN IN DETAIL 6/E6.2ii ON LABELS.

Service Temperature:	-40°F to 175°F (-40°C to 80°C)
Average Outdoor Durability:	2-3 years

Date: _____ / _____ / _____   Job: _____

Contractor _____

PRODUCT DATA SHEET

Setonflex® Engraved Plastic Nameplates (continued)

Chemical Resistance:

Reagent	7 day Immersion	Dip Test	Rub Test
30% Sulfuric Acid	NE	NE	NE
10% Sulfuric Acid	NE	NE	NE
30% HCL	NE	NE	NE
10% HCL	NE	NE	NE
50% NaOH	NE	NE	NE
10% NaOH	NE	NE	NE
Turpentine	NE	NE	NE
Conc. Acetic Acid	NE	NE	NE
5% Acetic Acid	NE	NE	NE
Conc. Ammonia	NE	NE	NE
10% Ammonia	NE	NE	NE
Methyl Ethyl Ketone	F	F	NE
Acetone	F	F	NE
Methanol	F	F	NE
1,1,1, Trichloroethane	F	F	NE
ASTM #3 Oil	NE	NE	NE
SAE 20 Oil	NE	NE	NE
Mineral Spirits	NE	NE	NE
Diesel Fuel	NE	NE	NE
Kerosene	F	NE	NE
Water	NE	NE	NE

NE: No Effect   **F:** Failed

7 Day Immersion:	Immersed in reagent for 7 days.
Dip Test:	Five 10 minute dips in reagent with 30 minute recovery.
Rub Test:	Rubbed sample for one minute with swab soaked in reagent.
Shelf Life:	Indefinite when stored at 70°F (21°C) and 40% to 50% R.H.

Tough on the outside.
Smart on the inside.

BMP®21-PLUS Label Printer

Tough on the outside. Smart on the inside.

Make your life a little easier. Let the **BMP®21-PLUS Label Printer** work for you. This printer's tough enough and smart enough to help you power through your daily challenges — and still get the job done. Plus, it can tackle just about any custom labeling job you can dream up.

- **Tough** — this printer isn't bothered by occasional rough landings in your toolbox or on the job. With rubber bumpers and handy side grips, it's sturdy enough to handle applications in tight spaces or the great outdoors.

- **Smart** — auto-formatting does the design work for your labels so you can focus on enhancing them with more than 100 symbols. Create professional-looking labels for datacom, electrical, safety and home.

- **User friendly** — just load, type and print to make your wire wrap, patch panel and cable flag labeling jobs a snap. For convenience, this printer has a hands-free label grabber that holds your label until you're ready to apply.

The complete BMP21-PLUS Label Printer solution

BMP21-PLUS Printer	Label cartridges	Printer and accessories	Printer specifications
Page 3	**Pages 4**	**Page 7**	**Page 7**

BRADY®

BMP®21-PLUS
LABEL PRINTER

Compatible with continuous labels in 10 materials

Accepts drop-in cartridges with label widths up to 0.75 inch

.750" Black on White
19.1mm Nylon
M21-750-499
LOT# 22779054

Works With:
BMP®21-PLUS, BMP®21,
BMP®21-LAB,
LABPAL
IDPAL

BRADY®

Holds on to label after cutting

Provides a backlit LCD display

Banner Landsca
WireMarker
Terminal Block
6 pt BA

Auto-formats labels for common applications

100+ symbols and font size up to 40 points

Sports an ergonomic, center-balanced design

Passes military standard shock and vibration testing

Indoor and outdoor vinyl labels
for safety, facility and lean / 5S (B-595)

Continuous vinyl material ideal for lean / 5S labels, pipe markers, equipment and production area identification. These labels offer excellent resistance to oils, detergents, dirt, grime and many solvents. Permanent adhesive, very pliable, suitable for rough surfaces and outdoor use. 8-10 years average outdoor durability.* Temp. range: -40° F to 180° F (-40° C to 82° C). UL recognized.
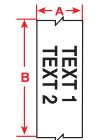
Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
Fig. 33b	M21-250-595-WT	B-595	Vinyl	Black on white	0.250 (6.35)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-375-595-WT	B-595	Vinyl	Black on white	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-500-595-WT	B-595	Vinyl	Black on white	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-750-595-WT	B-595	Vinyl	Black on white	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-250-595-YL	B-595	Vinyl	Black on yellow	0.250 (6.35)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-375-595-YL	B-595	Vinyl	Black on yellow	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-500-595-YL	B-595	Vinyl	Black on yellow	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-750-595-YL	B-595	Vinyl	Black on yellow	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-375-595-OR	B-595	Vinyl	Black on orange	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-500-595-OR	B-595	Vinyl	Black on orange	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-750-595-OR	B-595	Vinyl	Black on orange	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-375-595-BK	B-595	Vinyl	White on black	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-500-595-BK	B-595	Vinyl	White on black	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-750-595-BK	B-595	Vinyl	White on black	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-375-595-RD	B-595	Vinyl	White on red	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-500-595-RD	B-595	Vinyl	White on red	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-750-595-RD	B-595	Vinyl	White on red	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-375-595-BL	B-595	Vinyl	White on blue	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-500-595-BL	B-595	Vinyl	White on blue	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-750-595-BL	B-595	Vinyl	White on blue	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-375-595-BR	B-595	Vinyl	White on brown	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-500-595-BR	B-595	Vinyl	White on brown	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-750-595-BR	B-595	Vinyl	White on brown	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-375-595-GN	B-595	Vinyl	White on green	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-500-595-GN	B-595	Vinyl	White on green	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-750-595-GN	B-595	Vinyl	White on green	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-375-595-PL	B-595	Vinyl	White on purple	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-500-595-PL	B-595	Vinyl	White on purple	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-750-595-PL	B-595	Vinyl	White on purple	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4400
Fig. 33b	M21-375-595-GY	B-595	Vinyl	Black on gray	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-500-595-GY	B-595	Vinyl	Black on gray	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-750-595-GY	B-595	Vinyl	Black on gray	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6000

Average expected outdoor life of product will depend on user definition of failure, climatic conditions, mounting techniques and material color.
The 8 to 10 year outdoor durability applies to the vinyl label stock only; ribbon durability will vary.

Patch panel adhesive strips (B-499 and B-595)

Continuous material for port identification features user-specified spacing when using patch panel mode.

- **B-499 permanent nylon cloth** - Durable industrial strength material designed to conform to curved or flat surfaces
- **B-595 permanent vinyl** - Very pliable, suitable for rough surfaces and outdoor use. Offers excellent resistance to oils, detergents, dirt, grime and many solvents

Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
B-499 nylon cloth								
Fig. 33b	M21-375-499	B-499	Nylon cloth	Black on white	0.375 (9.53)	16 (4.88)	1 roll (cont.)	R4300
Fig. 33b	M21-500-499	B-499	Nylon cloth	Black on white	0.500 (12.70)	16 (4.88)	1 roll (cont.)	R4300
B-595 vinyl								
Fig. 33b	M21-375-595-WT	B-595	Vinyl	Black on white	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6000
Fig. 33b	M21-500-595-WT	B-595	Vinyl	Black on white	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6000

BRADY

Terminal block adhesive strips (B-499)

Continuous, narrow nylon cloth strips for alignment on terminal blocks. The printer's terminal block mode allows for user-specified spacing.
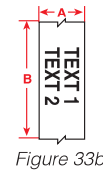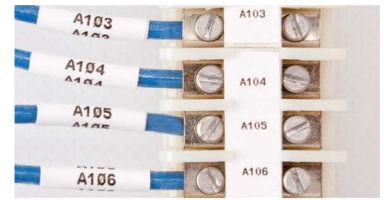
Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
Fig. 33b	M21-375-499-TB	B-499	Nylon cloth	Black on white	0.375 (9.53)	16 (4.88)	1 roll (cont.)	R4300
Fig. 33b	M21-500-499-TB	B-499	Nylon cloth	Black on white	0.500 (12.70)	16 (4.88)	1 roll (cont.)	R4300

Nylon cloth wire and cable labels (B-499)

Continuous labels wrap around wires and are highly pliable, conforming to tightly curved surfaces. When in wire marker mode, text auto-repeats on the label. Labels can also be used for flagging with the flag mode.
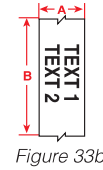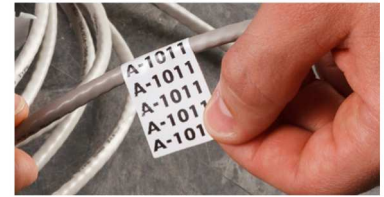
Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
Fig. 33b	M21-375-499	B-499	Nylon cloth	Black on white	0.375 (9.53)	16 (4.88)	1 roll (cont.)	R4300
Fig. 33b	M21-500-499	B-499	Nylon cloth	Black on white	0.500 (12.70)	16 (4.88)	1 roll (cont.)	R4300
Fig. 33b	M21-750-499	B-499	Nylon cloth	Black on white	0.750 (19.05)	16 (4.88)	1 roll (cont.)	R4300

Self-laminating vinyl wire and cable labels (B-427)

Labels feature a clear, non-printable area that wraps around the print-on area to protect text. Vinyl material offers superior resistance to solvents, oil, grease, dirt and water. Temp. range: -40° F to 158° F (-40° C to 70° C). UL recognized.
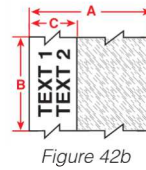
Figure 42b

Figure	Catalog #	B#	Material	Color	Approx. wire gauge	Label width A inch (mm)	Roll length B feet (m)	Print-on area C inch (mm)	Labels per roll	Ribbon in cartridge
Fig. 42b	M21-750-427	B-427	Vinyl	Black on white	16 to 10	0.75 (19.05)	14 (4.27)	0.375 (9.53)	1 roll (cont.)	R4300
Fig. 42b	M21-1000-427	B-427	Vinyl	Black on white	12 to 10	1.00 (25.40)	14 (4.27)	0.375 (9.53)	1 roll (cont.)	R4300
Fig. 42b	M21-1250-427	B-427	Vinyl	Black on white	10 to 4	1.25 (30.48)	14 (4.27)	0.50 (12.70)	1 roll (cont.)	R4300
Fig. 42b	M21-1500-427	B-427	Vinyl	Black on white	10 to 4	1.50 (38.10)	14 (4.27)	0.50 (12.70)	1 roll (cont.)	R4300

PermaSleeve® PS Heat-shrink Wire Markers (B-342)

Military / industrial grade sleeves offer the ultimate in marker durability, permanence and aesthetic appearance. 3:1 heat-shrinkable markers fit snugly around wires, are fade-resistant and flame-retardant. Temp range: -67° F to 275° F (-55° C to 135° C). RoHS compliant and UL recognized.

Meets specifications:
- SSAE-AS-23053/5
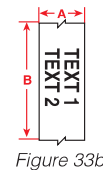- SAE-AS-81531

Tested per:
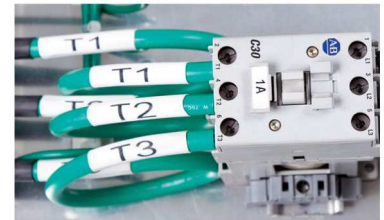- ASTM E162
- ASTM E662
- MIL-STD-202

Figure 33b

Figure	Catalog #	B#	Material	Color	Approx. wire gauge	Max wire dia. inch (mm)	Supplied dia. A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
Fig. 33b	** M21-125-C-342	B-342	Polyolefin	Black on white	22 to 16	0.046 - 0.110 (1.2 - 2.8)	0.125 (3.2)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-187-C-342	B-342	Polyolefin	Black on white	20 to 10	0.062 - 0.150 (1.6 - 3.8)	0.187 (4.9)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-250-C-342	B-342	Polyolefin	Black on white	16 to 8	0.094 - 0.215 (2.4 - 5.5)	0.250 (6.9)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-375-C-342	B-342	Polyolefin	Black on white	12 to 4	0.125 - 0.320 (3.2 - 8.1)	0.375 (10.7)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-125-C-342-YL	B-342	Polyolefin	Black on yellow	22 to 16	0.046 - 0.110 (1.2 - 2.8)	0.125 (3.2)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-187-C-342-YL	B-342	Polyolefin	Black on yellow	20 to 10	0.062 - 0.150 (1.6 - 3.8)	0.187 (4.9)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-250-C-342-YL	B-342	Polyolefin	Black on yellow	16 to 8	0.094 - 0.215 (2.4 - 5.5)	0.250 (6.9)	7 (2.13)	1 roll (cont.)	R4300
Fig. 33b	** M21-375-C-342-YL	B-342	Polyolefin	Black on yellow	12 to 4	0.125 - 0.320 (3.2 - 8.1)	0.375 (10.7)	7 (2.13)	1 roll (cont.)	R4300

** ⚠ **WARNING:** Cancer www.P65Warnings.ca.gov

Polyester labels for inside panel markings and general identification (B-423, B-430 and B-488)

- **B-423 polyester** - white glossy polyester with permanent adhesive
- **B-430 polyester** - clear glossy polyester with permanent adhesive
- **B-488 polyester** - solvent-resistant, white matte polyester with permanent adhesive

Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
B-423 gloss white polyester								
Fig. 33b	M21-250-423	B-423	Polyester	Black on white	0.250 (6.35)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-375-423	B-423	Polyester	Black on white	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-500-423	B-423	Polyester	Black on white	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-750-423	B-423	Polyester	Black on white	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6200
B-430 gloss clear polyester								
Fig. 33b	M21-250-430	B-430	Polyester	Black on clear	0.250 (6.35)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-375-430	B-430	Polyester	Black on clear	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-500-430	B-430	Polyester	Black on clear	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-750-430	B-430	Polyester	Black on clear	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-250-430-WT-CL	B-430	Polyester	White on clear	0.250 (6.35)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-375-430-WT-CL	B-430	Polyester	White on clear	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-500-430-WT-CL	B-430	Polyester	White on clear	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R6200
Fig. 33b	M21-750-430-WT-CL	B-430	Polyester	White on clear	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R6200
B-488 matte white polyester								
Fig. 33b	M21-375-488	B-488	Polyester	Black on white	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4300
Fig. 33b	M21-500-488	B-488	Polyester	Black on white	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4300
Fig. 33b	M21-750-488	B-488	Polyester	Black on white	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4300

Laboratory labels (B-461 and B-7425)

- **B-461 polyester** - all-white material with smudge resistance, solvent resistance and is suitable for low-temperature applications
- **B-7425 polypropylene** - economical white material with chemical and high-temperature resistance

Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
B-461 polyester								
Fig. 33b	M21-375-461	B-461	Polyester	Black on white	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4300
Fig. 33b	M21-500-461	B-461	Polyester	Black on white	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4300
Fig. 33b	M21-750-461	B-461	Polyester	Black on white	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4300
B-7425 polypropylene								
Fig. 33b	M21-375-7425	B-7425	Polypropylene	Black on white	0.375 (9.53)	21 (6.40)	1 roll (cont.)	R4300
Fig. 33b	M21-500-7425	B-7425	Polypropylene	Black on white	0.500 (12.70)	21 (6.40)	1 roll (cont.)	R4300
Fig. 33b	M21-750-7425	B-7425	Polypropylene	Black on white	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4300

Water-dissolvable paper labels (B-403)

Continuous paper material designed for temporary identification. Material completely dissolves in warm water within 30 seconds, leaving no adhesive residue.

Figure 33b

Figure	Catalog #	B#	Material	Color	Label width A inch (mm)	Roll length B feet (m)	Labels per roll	Ribbon in cartridge
Fig. 33b	M21-750-403	B-403	Dissolvable paper	Black on white	0.750 (19.05)	21 (6.40)	1 roll (cont.)	R4300

BRADY®

Printer and accessories

Catalog #	Description
BMP21-PLUS	BMP21-PLUS Label Printer* †
BMP21-PLUS-KIT1	BMP21-PLUS Label Printer Kit** †
M-AC-110937	AC adapter / charger
BMP21-PLUS-BATT	Li-Ion battery pack

Catalog #	Description
BMP21-TOOL	Multi-function tool (magnet / flashlight / retractable stand)
BMP21-MAGNET	Magnet accessory
BMP-SC-1	Soft case
BMP21-PLUS-HC	Hard case

* Printer includes: one M21-750-499 label cartridge, quick start guide and 2-year warranty. (batteries not included).

** Printer kit includes: AC adapter / battery charger, hard case, Li-Ion battery, one M21-750-499 label cartridge, quick start guide and 2-year warranty.

US Patent Nos. 8.322.936; 8,846,171.

Printer specifications

Printer	
Printer name	BMP®21-PLUS Label Printer
Print resolution	Thermal transfer, 203 dpi
Max lines of print	4
Print speed	0.4 in / sec (10 mm / sec)
Keyboard type	ABC or Cyrillic
Dimensions	9.5 in. x 2.5 in. x 4.5 in. (236.22 x 63.5 x 114.3 mm)
Weight	1.66 lbs (0.75 kg) with AA batteries and media roll
Warranty	2 years
Operating temp	40° to 110° F (4° to 43° C)
Humidity	10% to 90% (non-condensing)
Storage temp	0° to 110° F (-18° to 43° C)
Continuous or die-cut labels	Continuous labels only
Portability	Yes
Features	
Memory	16MB, 10 labels (2MB available for storage)
User profiles	No
Cutter type	Straight cut, single hand manual actuate
Cut options	Cut between labels or at end of print job
Label retention after cut	Yes
Labels per day (average)	100
Battery life indicator	Yes
Label odometer / supply remaining	No
Drop test	Transit drop per MIL-STD-810G 5.16.6 S4.6.5 Drop tested: 6 ft. drop
Languages	English, Dutch, German, Italian, French, Spanish Portuguese, Russian (separate keyboard version)
Units	Inches or millimeters
Power	
Power supply	6 AA batteries, AC adapters: US 110V, UK 240V, Europe 220V, or Li-ION rechargeable battery
Battery included	No
Battery life	Li-ION battery: output of 2,000 2 in. (50.8 mm) labels 6 AA batteries: output of 1,800 2 in. (50.8 mm) labels
Rechargeable battery	Lithium Ion 11.7Wh (DC 7.2V 1620 mAH)
Charging options	External via AC
Re-charge time (estimated)	2.5 hours
Power source voltage	110-240
Auto shut off	10 minutes
Print functions	
Included modes	Wire / cable wrap, cable flag, terminal block, patch panel, circuit breaker, banner landscape and banner portrait
Serialization	Yes
Barcoding	39 and 128

Print functions (continued)	
Date / time stamp (real time clock)	Yes
Fixed length	Yes
Mirror print	No
Vertical print	Yes
Reverse print	No
Rotate print	No
Auto format	Yes
Text justification	Horizontal and vertical: centered
Multi-copy printing	Up to 99 copies
Multi-line print	Yes
Frame feature	No
Save files	Yes
Display	
LCD type / size	LCD, 2 in. x 1 in. (50.8 mm x 25.4 mm)
LCD resolution	132 x 64 pixels
LCD characters	13 characters x 3 lines
LCD backlight	Yes, user adjustable
Communication and interface	
Connectivity	Not applicable
PC connectivity	No
Import data	No
Import manufacturer templates / graphics	No
Software compatibility	Not applicable
Media	
Type	Cartridge with media and ribbon combined
Compatible media	M21-series cartridges
Maximum print width	0.63 in. (16 mm)
Maximum print length	36.0 in. (914.4 mm)
Maximum liner width	0.875 in. (22.2 mm)
Media widths	0.250 in. to 0.75 in. (6.4 to 19.1 mm)
Color print capability	Single print color on a label
Cartridge detection	Yes, width and setting
Custom labels available	No
Fonts, graphics, symbols	
Text sizes	6-40 pt with autosizing
Text attributes	Regular, bold
Number of fonts	(1) Brady standard font
Number of symbols	104
Symbol categories	Arrows, datacomm, electrical, greek, home electrical, international, misc, warning

† ⚠ **WARNING:** Cancer www.P65Warnings.ca.gov

We identify and protect premises, products and people.

For more information or to learn more about our innovative products, visit BradyID.com or call 1-888-272-3946.

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