

Master materials specification cross reference

Label ID products

TE material	Material	Color	Temperature range		Print technology	Recommended application
			°C	°F		
C	Polyvinyl fluoride coated cloth	White	-29°C to +80°C	-20°F to +176°F	Dot matrix	Vinyl coated cloth tape with an aggressive adhesive system. For general use in permanent and removable applications. High material strength facilitates easy, clean removal of tape and adhesive. Easy to write on. Excellent resistance to oil, water and humidity. Less than 0.05% UV transmissibility. Clean adhesive removal within one year.
M	Polyester	Silver	-53°C to +93°C	-65°F to +200°F	Dot matrix	Ideal for rating plate applications, graphic symbol identifiers and users who desire a metalized programmable device label. The matte ink receptive coating and Tyco Electronics ribbon provide high integrity marking in a variety of environments. Allows less than 0.01% UV transmissibility. UL Listed and CSA Certified.
K	Polyimide (Kapton®)	Tan	-40°C to +260°C	-40°F to +500°F	Dot matrix	Ideal for label requirements on circuit boards. Suitable for direct wave (bottom side) and IR reflow (top side) applications. Polyimide film with unique pressure sensitive adhesive designed to withstand the various fluxes, cleaning solvents and molten solder encountered in the manufacture of printed circuit boards. Flash exposure up to 1000°F.
E	Polyester	White	-53°C to +93°C	-65°F to +200°F	Dot matrix	Ideal for applications requiring exposure to vapor degreaser. The matte ink receptive coating and Tyco Electronics ribbon provide high integrity marking in a variety of environments. Allows less than 0.01% UV transmissibility. UL Listed and CSA Certified.
TW	Polyvinyl chloride	Clear	-54°C to +82°C	-65°F to +180°F	Thermal transfer	An excellent marker for cable, flat ribbon cable, machine tools, tubing or underground wiring. Durable vinyl film with good conformability. Designed to withstand exposure to oil, solvents and water. Supplied with a white print-on or write-on surface for on-the-job marking.
WP	Polyester	White	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for applications requiring a white high-durability label. Gloss white top-coat offers excellent contrast ratios for barcodes.
CP	Polyester	Clear	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for applications requiring a clear lamination or as a clear label.
HW	Polyester	White	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for applications that require a high-tack adhesive. White label is excellent for bar code applications. Adhesive is designed to bond to the most demanding surface, including textured and contoured surfaces.
HM	Polyester	Silver	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for rating plate applications and programmable device labels that require a high-tack adhesive. Adhesive is designed to bond to the most demanding surfaces, including textured and contoured surfaces. UL Listed and CSA Certified.
HMM	Polyester	Silver	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for applications such as rating plates and serial plates that require high adhesion to textured surfaces, metals, low surface energy plastics and powder coated surfaces. The matte surface provides excellent mark permanence and the high tack adhesion will bond to the most demanding surfaces.
MP	Polyester	Silver	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for rating plate applications and users who desire a metalized programmable device label.
MV	Polyester	Silver	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for rating plate applications and users who desire a label with a silver look and tamper evident feature. Removal after 24 hours results in label fracturing with "VOID" pattern remaining.
TN	Polyethylene	White	-40°C to +80°C	-40°F to +176°F	Thermal transfer	Ideal for applications that require serial numbers, calibration information or other tamper proof identifications. Fractures upon removal after 72 hours.
WV	Polyvinyl chloride	White	-60°C to +95°C	-76°F to +203°F	Thermal transfer	Vinyl film with good conformability to round and flexible surfaces. Excellent for flat ribbon cables that are subjected to repeat bending. Designed to withstand exposure to oil, solvents and water.
NC	Polyamide Cloth	White	-40°C to +140°C	-40°F to +284°F	Thermal transfer	Excellent for irregular surfaces where conformability is desired. Label will conform to round or flexible surfaces, such as tubing, wiring or cables.
T1K	Polyimide (Kapton®)	White	-40°C to +260°C	-40°F to +500°F	Thermal transfer	Ideal for label requirements on circuit boards. Suitable for direct wave (bottom side) and IR reflow (top side) applications. Designed to withstand the various fluxes, cleaning solvents and molten solder encountered in the manufacture of printed circuit boards. Excellent for bar code applications.

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TE material	Material	Color	Temperature range		Print technology	Recommended application
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T2K	Polyimide (Kapton®)	White	-40°C to +260°C	-40°F to +500°F	Thermal transfer	Ideal for label requirements on circuit boards. Suitable for direct wave (bottom side) and IR reflow (top side) applications. Designed to withstand the various fluxes, cleaning solvents and molten solder encountered in the manufacture of printed circuit boards. Excellent for auto apply applications.
TSK	Polyimide (Kapton®)	White	-40°C to +260°C	-40°F to +500°F	Thermal transfer	Designed for applications where static charge is necessary, such as printed circuit boards and related electronic components. Ideal for high temperature labeling requirements and suitable for direct wave (bottom side) and IR reflow (top side) PCB applications. Withstands the fluxes, cleaning solvents and molten solder encountered in the manufacture of PCBs. Provides excellent contrast for bar code applications.
T2Y	Modified polyimide	White	-40°C to +232°C	-40°F to +450°F	Thermal transfer	Ideal for applications requiring a high durability white label that will withstand the temperatures and solvents encountered in printed circuit soldering. Designed as an economic alternative to Tyco Electronics's T1K material. Suitable for IR reflow (top side) applications.
KTT	Polyimide (Kapton®)	Tan	-40°C to +260°C	-40°F to +500°F	Thermal transfer	Ideal for high temperature labeling requirements such as printed circuit boards. Suitable for direct wave (bottom side) and IR reflow (top side) PCB applications. Designed to withstand the fluxes, cleaning solvents and molten solder encountered in the manufacture of PCBs.
PVF	Polyvinyl fluoride	White/Yellow	-40°C to +130°C	-40°F to +266°F	Thermal transfer	Excellent for wire and cable marking and other general labeling applications that require the "self-extinguishing" properties of Tedlar®. Best used in a variety of harsh physical and chemical environments. Resists water, oil, cleaning agents and oil based solvents, and filters ultra-violet light.
SB	Polyvinyl chloride	Clear	-40°C to +80°C	-40°F to +176°F	Thermal transfer	An excellent marker for cable, flat ribbon cable, machine tools, tubing or underground wiring. Durable vinyl film with good conformability. Designed to withstand exposure to oil, solvents and water. Supplied with a white print-on or write-on surface for on-the-job marking.
SP	Polyester	Clear	-40°C to +150°C	-40°F to +302°F	Thermal transfer	Ideal for high temperature labeling requirements such as printed circuit boards. Suitable for direct wave (bottom side) and IR reflow (top side) PCB applications. Designed to withstand the fluxes, cleaning solvents and molten solder encountered in the manufacture of PCBs.
EP	Paper	White	-54°C to +66°C	-65°F to +200°F	Thermal transfer	Ideal for permanent marking in milder environments when economy is required. The white smooth finish is excellent for bar coding applications. Excellent adhesion to most styrenes, polypropylenes, polyethelenes and paper. Adhesion to corrugation often results in the label or substrate tear when removal is attempted.
CSL	Polyester	White/Yellow	-30°C to +120°C	-22°F to +180°F	Laser	Ideal for permanent marking of cables, wires and flat ribbon cables. Designed to withstand exposure to solvents, salts, alkalis and water. Top coat designed for use in laser printers.
iKC/iKB	Polypropylene (carrier) Polyester (insert)	Clear White/Yellow	-26°C to +130°C -40°C to +150°C	-15°F to +266°F -40°F to +302°F	N/A Laser	Excellent for wire and cable identification and is an ideal product for post termination identification. It can be applied to various cable diameters with cable ties.
iMC	Polypropylene (carrier) Polyester (insert)	Clear White/Yellow	Up to +80°C -40°C to +150°C	Up to +176°F -40°F to +302°F	N/A Laser	Excellent for wire and cable identification and is an ideal product for post termination identification. Marker clip is easily fastened to cable without the need for cable ties.
LE	Polyester	White	-40°C to +150°C	-40°F to +302°F	Laser	Ideal for general purpose and component labeling. Highly durable image. Ideal for applications requiring a bar code. Top coat designed for use in laser printers.
LM	Polyester	Silver	-40°C to +150°C	-40°F to +302°F	Laser	Excellent for component labeling requiring low UV transmissibility. Metal appearance ideal for rating plate applications. Top coat designed for use in laser printers.
TKM	Polyvinyl chloride	clear	-54°C to +82°C	-65°F to +180°F	N/A	Ideal for quick, simple and durable general purpose wire and cable identification.

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Master materials specification cross reference (Cont'd)

Wire, harness and pipe ID

TE material	Material	Color	Temperature range		Recommended application
			°C	°F	
CM-SCE	Radiation cross-linked polyolefin		-55°C to +135°C	-67°F to +275°F	A military grade tag best used in aerospace, defense and commercial applications for large diameter cable bundles or harnesses that go beyond the range of heat-shrink identification sleeves. The product has superior mark permanence and can be attached to the wire bundles using cable ties. The product complements the TMS-SCE and RPS product ranges.
D-SCE	Radiation cross-linked polyolefin		-55°C to +135°C	-67°F to +275°F	A military grade product with superior resistance to several fluids, fuels, cleaning agents and chemicals. The product is best used in harsh-environment applications like rail and mass transit, aerospace, defense and industrial plants for permanent identification of wire and cables. The product covers a broad range of wire diameters for ease of use.
HL	Radiation cross-linked polyolefin		-55°C to +135°C	-67°F to +275°F	A performance grade polyolefin cable tag that comes in various widths and lengths to incorporate several sizes and lines of text and is best used in rail and mass transit and industrial applications. The product complements the HS range of heat-shrink identification sleeves and fills the sizes where a heat-shrink sleeve would be difficult to use.
HS	Radiation cross-linked polyolefin		-55°C to +135°C	-67°F to +275°F	A military grade heat-shrink identification product that comes in several different sleeve lengths and expanded diameters to fit a wide range of wire and cables that require variable text to fit a marker from 0.5in in length to a marker that is 6in in length. The product is ideal for use in the rail and mass transit and industrial applications where endurance to harsh environment and a variety of chemicals is a necessity.
HLTM	Proprint		-54°C to +71°C	-65°F to +160°F	A semi-rigid, heavy gauge Proprint without an adhesive backing. Designed for staple application to plywood control panel backboards for rail signal circuit identification. The standard 1.0" hole pitch design meets AAR terminal post specifications and makes installation fast and convenient. Resistant to common fluids, lubricants and solvents.
HLTM-FB	Polyolefin		-55°C to +135°C	-67°F to +275°F	A semi-rigid, heavy gauge crosslinked polyolefin material without an adhesive backing. Designed for use in a variety of applications including terminal post and terminal board signal circuit identification. The heavy gauge thickness is ideal for applications requiring exceptional durability. Mark permanence exceeds military requirements. Resistant to common fluids, lubricants, solvents and abrasion.
HLX	Radiation cross-linked zero-halogen polyolefin		-30°C to +105°C	-22°F to +221°F	A semi-rigid, heavy gauge specially formulated fabric material with a high tack permanent acrylic adhesive that is designed to permanently identify control panel components and racks, as well as general labeling applications that require a high performance, heavy gauge material. It has excellent abrasion resistance and adheres to most smooth surfaces including bare and painted metal.
HPC	Tyvek®		-54°C to +71°C	-65°F to +160°F	A semi-rigid, heavy gauge Tyvek® designed to permanently identify control panel components and racks, as well as general labeling applications that require a high performance heavy gauge material. Excellent abrasion resistance. Adheres to most smooth surfaces including bare and painted metal.
HPK	Polypropylene		-29°C to +80°C	-24°F to +176°F	A semi-rigid, heavy gauge polypropylene film designed to permanently identify control panel components and racks, as well as general labeling applications that require a high performance heavy gauge material. Excellent abrasion resistance. Adheres to most smooth surfaces including bare and painted metal.
HPKTM	Polypropylene		-29°C to +80°C	-24°F to +176°F	A semi-rigid polypropylene film designed for application to control panel backboards for rail signal circuit identification. The standard 1.0" hole pitch design meets AAR terminal post specifications and makes installation fast and convenient. Adheres to most smooth surfaces including bare and painted metal, as well as painted plywood used for rail signal terminal boards. Resistant to common fluids, lubricants and solvents.
HPTM	Tyvek®		-40°C to +80°C	-40°F to +176°F	A semi-rigid, heavy gauge Tyvek® designed for application in control panel backboards for rail signal circuit identification. The standard 1.0" hole pitch design meets AAR terminal post specifications and makes installation fast and convenient. Adheres to most smooth surfaces including bare and painted metal, as well as painted plywood used for rail signal terminal boards. Resistant to common fluids, lubricants and solvents.
HT-SCE	Radiation cross-linked fluoropolymer		-55°C to +225°C	-67°F to +437°F	A high-temperature resistant permanent identification sleeve system specifically designed for applications requiring exposure to prolonged temperatures and elevated continuous operating temperatures. The product has exceptional resistance to several fluids, solvents, oils and fuels and it's specifically designed low out-gassing properties make it ideal for use around living beings. The product meets several Military specifications and is recommended by NASA as a low-outgassing permanent identification sleeve system. Typical applications include outer space, aerospace and defense.

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Master materials specification cross reference (Cont'd)

Wire, harness and pipe ID (continued)

TE material	Material	Color	Temperature range		Recommended application
			°C	°F	
HTCM-SCE	Radiation cross-linked fluoropolymer		-55°C to +225°C	-67°F to +437°F	A high temperature, low-outgassing tie-on cable tag that complements the HT-SCE identification sleeve product range. Suitable for wire bundles, cables and harnesses that go beyond the size range for the HT-SCE sleeves or require side entry identification, pre or post-termination. The product can be attached using high-temperature resistant cable ties. Recommended on NASA's low-outgassing material list, the product is ideally suited for outer space, aerospace and defense applications.
HX	Radiation cross-linked zero-halogen polyolefin		-30°C to +105°C	-22°F to +221°F	Used to identify wires and cables where low fire hazard properties are necessary, the zero halogen material coupled with low smoke and toxic fume emissions make this product ideal for use in enclosed spaces such as mass transit, marine and Industrial installations. The product has exceptional mark permanence to common fluids, solvents and chemicals.
HX-SCE	Radiation cross-linked zero-halogen polyolefin		-30°C to 105°C	-22°F to +221°F	A halogen-free product suitable for applications where low-smoke upon combustion is a necessity. The product has superior resistance to common fluids and solvents and is best used in rail and mass transit and industrial applications that involve close contact with humans. The product is available for a wide range of wire and cable diameters and shrinks to half the expanded diameter
NBC-SCE	Radiation cross-linked fluoropolymer		-55°C to +225°C	-67°F to +437°F	A specially formulated permanent identification sleeve system specifically designed for use in environments exposed to nuclear, biological and chemical agents. The system when used with the appropriate adhesive and oversleeve meets the requirements of an inert system (contact Tyco Electronics for details) to identify wire, cables and harnesses. The product has exceptional resistance to several fluids, solvents and fuels. Typical industrial applications include defense harnesses, aerospace, chemical and pharmaceutical plants and infrastructure. The low out-gassing properties make the product exceptionally well-suited for areas that have close contact with humans.
NMX	Polyaramid (Nomex®)		-40°C to +135°C	-40°F to +275°F	A flame retarded polyaramid specially formulated for use in identification of cables and wire bundles as a side entry tag. The tags are attached to the substrate using cable ties. The product is ideal for aerospace and other industries where resistance to harsh environments and weight savings are necessary. Available in dot-matrix printable format, the product has exceptional resistance to cleaning fluids, fuels and chemicals commonly associated with the aerospace industry.
RMK	Epoxy coated polyester		-40°C to +105°C	-40°F to +221°F	A specially formulated computer printable label stock designed for applications requiring a permanent mark. When printed using recommended printers and cured using a heat-gun, the unique epoxy on the surface locks the image in place, permanently. Multiple color printing can be done on the label stock at one time. The product provides the benefits of silk-screening, reverse printed membranes and laser engraved signs and switches without the inflexibility associated with these technologies. Typical applications include rating plates, engraved plastic switches and permanent color coding of wires and panels.
RMK-6	Epoxy coated polyester		-40°C to +105°C	-40°F to +221°F	A specially formulated product for use in the harshest of conditions. Available as die-cut labels, the product is inkjet or dot-matrix printable and when cured with a heat gun post printing, the product has a mark that is indelible. Combined with low fire hazard properties, the product is best used where post-burn exposure to living beings is a real risk. Typical applications include rating plates in electronics and components and pipe and cable wrap around marking where permanent mark is desired.
RPS	Radiation cross-linked polyolefin		-30°C to +105°C	-22°F to +221°F	Suitable for applications where permanent identification of wires, cables and harnesses is required and a mil grade material or color coding other than white and yellow is not a necessity. 3:1 shrink ratio, quick-shrink properties and pre-kitted format along with thermal printable characteristics make this product ideal for high-volume applications that are heat-sensitive and withstand harsh environments.
TMS-CCUV	Radiation cross-linked fluoropolymer		-55°C to +150°C	-67°F to +302°F	A transparent heat-shrinkable sleeve that complements the entire heat-shrink and cable tag range of Tyco Electronics Identification products. Used in combination with any of the sleeve and tag materials, the product provides exceptional UV and weathering resistance where needed and protects the print from being degraded. The product also works with the NBC-SCE material and used along with an NBC adhesive, conforms to the requirements of an NBC system. The product is available in several different sizes and sleeve lengths. Typical industrial applications include chemical plants, healthcare industry, outer space and nuclear plants. The product is also ideal for NBC harnesses in the defense industry.

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Master materials specification cross reference (Cont'd)

Wire, harness and pipe ID (continued)

TE material	Material	Color	Temperature range		Recommended application
			°C	°F	
TMS-SCE	Radiation cross-linked polyolefin		-55°C to +135°C	-67°F to +275°F	A heat-shrink identification product that comes in 2:1 and 3:1 shrink ratios and a large range of diameters to fulfill most of the wire and cable identification needs that demand a permanent marker. The product meets and exceeds the performance requirements of the Mil-23053/5 class 1 and 3 and is suitable for a wide range of industry – from aerospace, defense, rail and mass transit to industrial and electronics sectors. The light weight of the product translates into significant savings for the aerospace industry. The product has quick-shrink properties that make it well-suited for applications that are heat-sensitive. The product also comes in all colors to facilitate color coding while identifying.
TP	Polyester		-40°C to +163°C	-40°F to +375°F	Suitable for tube and pipe labels in the aerospace/defense industry. Several sizes and standard pre-coded patterns for the various types of fluid/air/gas lines eliminate several steps and complex inventories. Flexible material and ultra-aggressive adhesive conform to curved surfaces with ease.
TTP	Polyester		-40°C to +150°C	-40°F to +302°F	The product is an excellent alternative to expensive and in-flexible silk-screen printing. Available in several colors and widths, it is best used as decals requiring excellent resistance to fluids and abrasion and where color printing with variable text is required. Applications include aerospace, defense, rail and mass transit and industrial plants. The product meets print performance requirements of Mil-M-81531.
VF	Polyvinyl fluoride (Tedlar®)		-40°C to +130°C	-40°F to +266°F	A label product best used in color coding and identification of wires, wire bundles and cables. The product can also be used in panels and boards. The product has exceptional resistance to burn and has superior UV stability. Available as continuous and die-cut, the product comes in all standard resistor color codes and meets the requirements of several Military and industry standards for wrapping tapes and labels.

Industry Icon Key



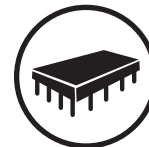
AEROSPACE



AUTOMOTIVE



CIRCUIT BOARDS



COMPONENTS



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GENERAL PURPOSE



INDUSTRIAL



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