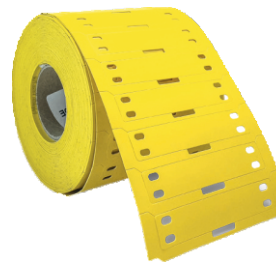


ETC Tie-on cable markers ladder format (Polyolefin)

expressMARK ETC cable markers are designed for marking of cable, conduit, pipes and valves. The ladder style format presents markers in an organised fashion for ease of installation on site using the pre-cut cable tie slots.

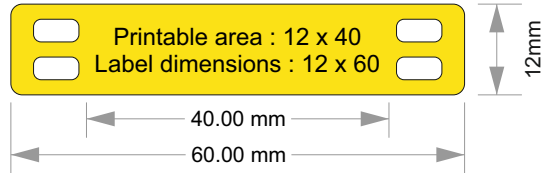


expressMARK

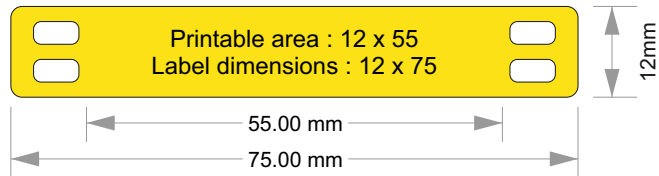


Ordering information

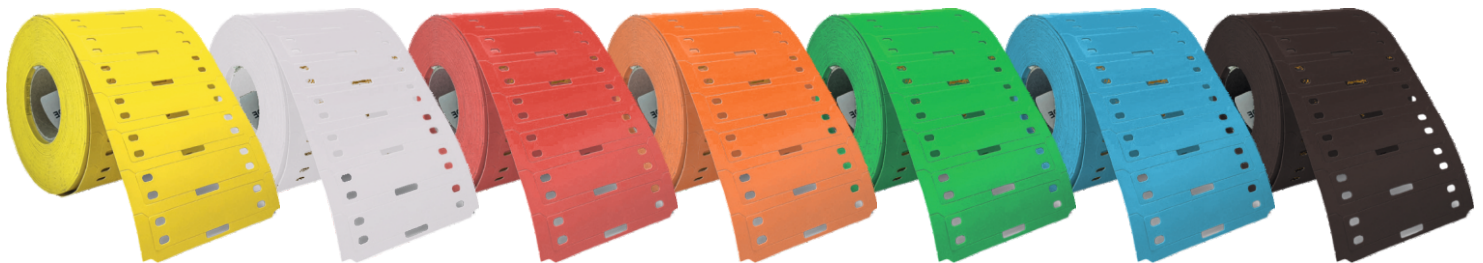
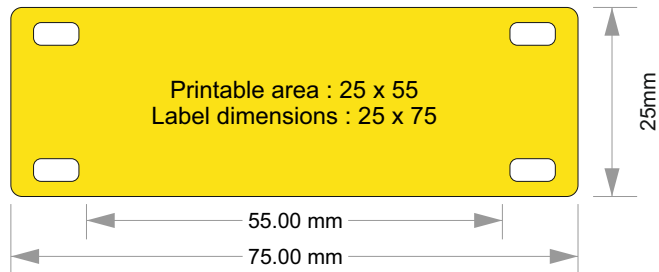
Part Number	Colour	Pack Size
ETC-4-012040-D	YELLOW	1000pcs
ETC-9-012040-D	WHITE	1000pcs
ETC-2-012040-D	RED	1000pcs
ETC-3-012040-D	ORANGE	1000pcs
ETC-5-012040-D	GREEN	1000pcs
ETC-6-012040-D	BLUE	1000pcs
ETC-0-012040-D	BLACK	1000pcs



Part Number	Colour	Pack Size
ETC-4-012055-D	YELLOW	1000pcs
ETC-9-012055-D	WHITE	1000pcs
ETC-2-012055-D	RED	1000pcs
ETC-3-012055-D	ORANGE	1000pcs
ETC-5-012055-D	GREEN	1000pcs
ETC-6-012055-D	BLUE	1000pcs
ETC-0-012055-D	BLACK	1000pcs



Part Number	Colour	Pack Size
ETC-4-025055-C	YELLOW	500pcs
ETC-9-025055-C	WHITE	500pcs
ETC-2-025055-C	RED	500pcs
ETC-3-025055-C	ORANGE	500pcs
ETC-5-025055-C	GREEN	500pcs
ETC-6-025055-C	BLUE	500pcs
ETC-0-025055-C	BLACK	500pcs



Black High Performance Ribbon

1966-RIBBON-100 100mm x 300M

Compatible with the following printer models :

TE : T2212, T200-IDENT, T3212, T3224, TE3112, TE3124 and T6112DS.

Cab : EOS1, EOS2 and SQUIX



For more information and to purchase these products visit us online at www.expresselectrical.co.uk

ETC Tie-on cable markers (Polyolefin)

The ETC ladder format cable markers are manufactured from halogen free, flame retardant and low smoke polyolefin. The zero halogen material coupled with low smoke and low toxic fume emission makes this product ideal for applications where limited fire hazard and low smoke characteristics are required. This product has been used extensively in mass transit, marine and industrial applications.

Physical

Properties	Test Method	Typical Value
Tensile strength	ASTM D 638	10 N/mm ²
Elongation at break	ASTM D 638	≥ 200%
Specific gravity	ASTM D 792	1.4g/cm ³
Water absorption	ASTM D 570	≤ 0.15%

Electrical

Properties	Test Method	Typical Value
Dielectric strength	ASTM D 149	20 kV/mm ²
Volume resistivity	ASTM D 257	≥ 10 ¹⁴ Ω cm

Chemical

Properties	Test Method	Typical Value
Chemical resistance (24hrs at 23°C)	ASTM D 638	Good - Pass
Copper corrosion	ASTM D 2671B	No corrosion

Thermal

Properties	Test Method	Typical Value
Heat shock (4hrs at 175°C)	ASTM D 2671	No dripping, cracking or flowing
Heat ageing (168hrs at 150°C)	ASTM D 638	Elongation ≥ 100%
Low temperature flexibility (-55°C)	EN 60684-2	No cracking and no break
Flammability	ASTM D 635-HB	Pass (flame retardant)
Optical density of smoke	ASTM E 662	Flaming mode 41, non flaming mode 111
Smoke Index	NF F 16-101	Smoke Class F1

Compliance on fire behaviour

Standard	Flame propagation	Toxicity	Smoke density	Low oxygen index
BS 6853		BS 6853 Ap B1 / NF X 70-100	BS 6853 D8.3	ISO 4589-2
NF F-16 101	NF EN 60-695-2	NF X 70-100	NF X 10-702	ISO 4589-2
NFPA130	ASTM E 162	BSS 7239	ASTM E 662	
EN 45545-2		NF X 70-100	EN ISO 5659-2	ISO 4589-2
DIN 5510-2	DIN 54837	DIN ISO 5510-2	DIN 54837	

Environmental UV Stability

Properties	Test Method	Typical Value
UV-A	ASTM G154 Machine set up Temp 50-60°C (140°F) Cycle 8hrs light 4hrs condensation UV wavelength 280-400nm Test duration 1000hrs of exposure.	Pass No damage to the marker Print legible after 20 rubs in accordance with SAE AS 81531.

Technical Data



Standard Colours

Yellow and white.

(Special : Red, orange, green, blue and black)

Material

Zero Halogen Polyolefin.

Operating temperature

-55°C up to +105°C.

Specifications

Mark permanence

SAE AS594

Chemical and solvent resistance

MIL-STD-202G method 215K.

Standard

BS 6853 1999 vehicle category 1a

EN 45545-2 (rail rolling stock)

LU 1-085:A3 (compliant)

NF F 16-101 (French rolling stock)

DIN 5510-2 (German rolling stock)

UNI CEI 11170-3 (Italian rolling stock)

NFPA130 (fixed guideway transit systems)

Boeing BSS 7239 (toxicity test)

Storage

Store in original packaging.

Recommended storage environment is +10°C to +25°C and 45-55% relative humidity.

Printing method

Thermal transfer

Packaging

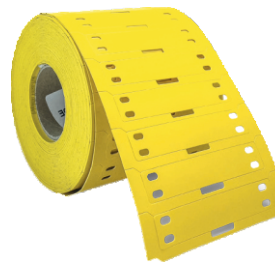
Supplied on printer ready reels.

Inner cores are sized to allow loading inside most printers.

Perforations between markers allow for easy separation.

ETC Tie-on cable markers ladder format (PUR)

expressMARK ETC cable markers are designed for marking of cable, conduit, pipes and valves. The ladder style format presents markers in an organised fashion for ease of installation on site using the pre-cut cable tie slots.

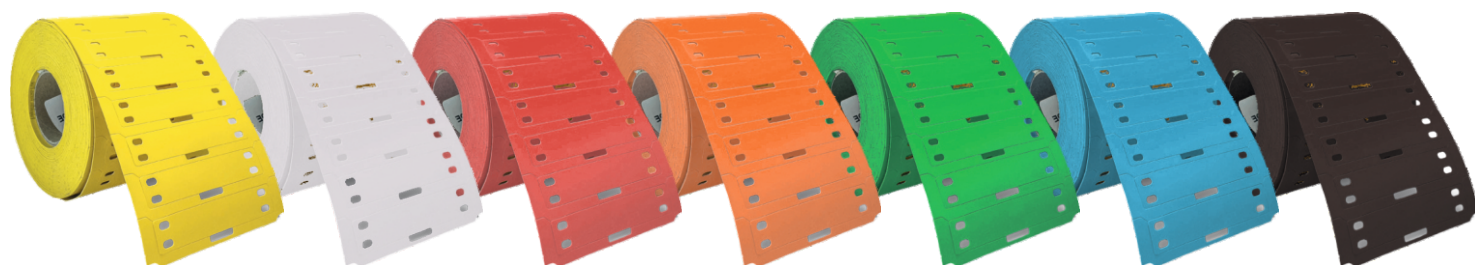
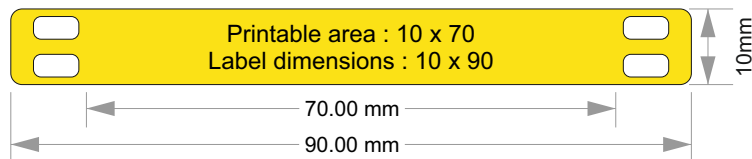


express**MARK**



Ordering information

Part Number	Colour	Pack Size
ETC-4-010070-D	YELLOW	1000pcs
ETC-9-010070-D	WHITE	1000pcs
ETC-2-010070-D	RED	1000pcs
ETC-3-010070-D	ORANGE	1000pcs
ETC-5-010070-D	GREEN	1000pcs
ETC-6-010070-D	BLUE	1000pcs
ETC-0-010070-D	BLACK	1000pcs



Black High Performance Ribbon

1966-RIBBON-100 | 100mm x 300M

Compatible with the following printer models :

TE : T2212, T200-IDENT, T3212, T3224, TE3112, TE3124 and T6112DS.

Cab : EOS1, EOS2 and SQUIX



For more information and to purchase these products visit us online at www.expressselectrical.co.uk

ETC Tie-on cable markers (PUR)

The ETC ladder format cable markers are manufactured from halogen free, flame retardant thermoplastic polyether-polyurethane material. The base compound material fulfills the requirements of UL94-V0.

Test results

Properties	Test Method	Typical Value
Hardness	DIN 53505	58 Shore D
Density	DIN 53479	1.27g/cm ³
Tensile strength	DIN 53504	30 MPa
Elongation at break	DIN 53504	400%
Stress at 20% elongation	DIN 53504	13 Mpa
Stress at 100% elongation	DIN 53504	19 Mpa
Stress at 300% elongation	DIN 53504	33 Mpa
Tear strength	DIN 53515	110 N/mm
Abrasion loss	DIN 53516	30 mm ³
Compression set room temperature	DIN EN ISO 815	30%
Compression set at +70°C	DIN EN ISO 815	45%
Tensile strength *	DIN 53504	20 MPa
Elongation at break *	DIN 53504	400%
Charpy V-notch impact test at +23°C	DIN EN ISO 815	50 kj/m ²
Charpy V-notch impact test at -30°C	DIN EN ISO 815	3 kj/m ²

*(stored in water at 80°C for 42 days)

Weathering Performance

	Conditions	Result
UV lamp : UV340	Light 60° irradiation 0.76 W/m ² for a duration of 8 hours. Spray duration - 15 minutes. Condensation 50° for a duration of 3 hours 45 minutes.	No visible change
Xenon lamp : XENON340	Light 65° irradiation 0.50 W/m ² for a duration of 1 hours 42 minutes. Light and spray irradiation 0.60 W/m ² for a duration of 8 minutes.	No visible change
Notes	Accelerated weathering testing was conducted within a laboratory using UV wet/dry cycle weathering simulation equipment. Duration of the test was 500 hours which equates to 10 years exposure within a typical northern European environment.	

Technical Data



Standard Colours

Yellow, white, red, orange, green, blue and black.

Material

Thermoplastic polyether-polyurethane

Operating temperature

-25°C up to +80°C.

Specifications

Mark permanence

SAE AS81531:1998, point 4.6.2.

Chemical and solvent resistance

MIL-STD-202F method 215J.

Storage

Store in original packaging.
Recommended storage environment is +10°C to +25°C and 45-55% relative humidity.

Printing method

Thermal transfer

Packaging

Supplied on printer ready reels.

Inner cores are sized to allow loading inside most printers.