



TECHNICAL DATA SHEET

Document number: TTDS-108

Issue: 5

Date: May 2012

HX-SCE Heat shrinkable sleeves

MATERIAL DESCRIPTION:	Thin wall, zero-halogen, low smoke, low toxicity, radiation cross-linked, UV stabilised polyolefin heat-shrinkable tubing, assembled as cut sleeves organized in a ladder format.
USE:	Identification of wires and cables by computer-based printing onto sleeves. Ideal for applications where LFH characteristics are critical. The self extinguishing properties with low smoke and low toxic fume emissions make this product ideal for use in enclosed spaces such as mass transit, marine and industrial installations. This product is not recommended where strain relief properties are required.
PRINT METHOD/RIBBON:	Refer to TE Identification TT Printer Product Ribbon Matrix Document 411-121005
CONTINUOUS OPERATING TEMPERATURE:	-55°C to +105°C (-40°F to +221°F).
MINIMUM RECOVERY TEMPERATURE:	120°C (248°F).
COLOURS:	White or Yellow. Other colors available on request.
FLAMMABILITY:	Self-extinguishing (ASTM D2671 Procedure B) Maximum flame spread index, $Is \leq 35$ (ASTM E 162)
OXYGEN INDEX:	34% minimum (BS EN ISO 4589-2 [1996]).
SMOKE EMISSION (A₀)	0.017 maximum (BS 6853 [1999] Annex D.8.3).
SMOKE DENSITY	ASTM E 662 Maximum Ds (1.5) ≤ 100 , Ds(4) ≤ 200 (Flaming and non flaming modes)
TOXIC FUME (R)	< 1 (BS 6853 [1999] Annex B – Mass based test method - NF X 70-100)
LUL TOXIC FUME (ELEMENTAL ANALYSIS):	No Halogens, P, S, or N sources above trace level (1-085 A3 Fire Safety Performance of Materials).

Page 1 of 5

Business locations:

☎ N America: + 1 650 361 3860 (West Coast)
☎ France: +33 (0) 476 099696 (Labels)
☎ Germany: + 49 (0) 6074 89080
☎ UK: + 44 (0) 1495 244000 (Labels)
☎ Japan: + 81 (0) 44 900 5102

☎ N America: + 1 401 751 6505 (East Coast)
☎ France: + 33 (0) 134 20 21 22 (Other products)
☎ UK: + 44 (0) 1793 528171 (Other products)
☎ Singapore: + 65 (0) 4866 151

All the above information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. TE Connectivity makes no warranties as to the accuracy or completeness of the information and disclaims any liability regarding its use. TE Connectivity only obligations are those in the Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising from the sale, resale, use or misuse of the product. TE Connectivity Specifications are subject to change without notice. In addition TE Connectivity reserves the right to make changes in materials or processing, without notification to the Buyer, which do not affect compliance with any applicable specification.



TECHNICAL DATA SHEET

Document number: TTDS-108

Issue: 5

Date: May 2012

HX-SCE Heat shrinkable sleeves

DIELECTRIC STRENGTH:	15kV/mm minimum.
WATER ABSORPTION:	1% maximum after 24 hours at 23°C (73°F).
COPPER MIRROR CORROSION:	8% maximum after 16 hours at 150°C (302°F).
LONGITUDINAL CHANGE:	+5% to -10%.
TENSILE STRENGTH:	7MPa minimum.
ULTIMATE ELONGATION:	80% minimum.
SECANT MODULUS:	200MPa maximum at 2% elongation.
UV RESISTANCE:	Tensile Strength > 90% & Ultimate Elongation > 40% of original value after 1000 hours (ASTM G53: UVA [100% dry cycle]; UVB [8 hours dry/4 hours wet cycle]).
PRINT PERMANENCE:	
- ADHERENCE	SAE AS5942 ⁱ : 1Kg load 50 rubs: Legible.
- FLUID RESISTANCE	MIL-STD-202 Method 215: 3 cycles, 30 brush strokes: Legible. BS EN 50343: 2003: Appendix H: Legible. London Underground specific test fluids to CC3349: Legible.

ⁱ SAE AS81531 cancelled Oct 2011, superseded by SAE AS5942.

Page 2 of 5

Business locations:

☎ N America: + 1 650 361 3860 (West Coast)
☎ France: +33 (0) 476 099696 (Labels)
☎ Germany: + 49 (0) 6074 89080
☎ UK: + 44 (0) 1495 244000 (Labels)
☎ Japan: + 81 (0) 44 900 5102

☎ N America: + 1 401 751 6505 (East Coast)
☎ France: + 33 (0) 134 20 21 22 (Other products)
☎ UK: + 44 (0) 1793 528171 (Other products)
☎ Singapore: + 65 (0) 4866 151

All the above information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. TE Connectivity makes no warranties as to the accuracy or completeness of the information and disclaims any liability regarding its use. TE Connectivity only obligations are those in the Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising from the sale, resale, use or misuse of the product. TE Connectivity Specifications are subject to change without notice. In addition TE Connectivity reserves the right to make changes in materials or processing, without notification to the Buyer, which do not affect compliance with any applicable specification.



TECHNICAL DATA SHEET

Document number: TTDS-108

Issue: 5

Date: May 2012

HX-SCE Heat shrinkable sleeves

FLUID RESISTANCE, DETAIL:

THREAT	TEST	EFFECT
Xylene / butylacetate / cyclohexanone mix (Paint stripper)	10 Cycles, Crockmeter	Print legible
Diesel	10 Cycles, Crockmeter	Print legible
Tunnel dust/white spirit	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Water	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Tunnel Dust and Oil (50%/50%)	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Tunnel Dust and Water (50%/50%)	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
White Spirits	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Diesel	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Grease	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Wash cycle test	25 cycles at 75°C (167°F), 25 wipes	Print legible

Page 3 of 5

Business locations:

☎ N America: + 1 650 361 3860 (West Coast)
☎ France: +33 (0) 476 099696 (Labels)
☎ Germany: + 49 (0) 6074 89080
☎ UK: + 44 (0) 1495 244000 (Labels)
☎ Japan: + 81 (0) 44 900 5102

☎ N America: + 1 401 751 6505 (East Coast)
☎ France: + 33 (0) 134 20 21 22 (Other products)
☎ UK: + 44 (0) 1793 528171 (Other products)
☎ Singapore: + 65 (0) 4866 151

All the above information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. TE Connectivity makes no warranties as to the accuracy or completeness of the information and disclaims any liability regarding its use. TE Connectivity only obligations are those in the Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising from the sale, resale, use or misuse of the product. TE Connectivity Specifications are subject to change without notice. In addition TE Connectivity reserves the right to make changes in materials or processing, without notification to the Buyer, which do not affect compliance with any applicable specification.



TECHNICAL DATA SHEET

Document number: TTDS-108

Issue: 5

Date: May 2012

HX-SCE Heat shrinkable sleeves

FLUID RESISTANCE, DETAIL:

(Continued)

THREAT	TEST	EFFECT
Glycol rail de-icer (50% glycol/50% water)	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Cleaning solvent	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Surface Cleaner (PGP500)	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
Multi-Purpose Graffiti remover gel	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
CGR gel (Chewing gum remover)	LUL C3349 (72hours, 20 strokes dry tissue)	Print legible
IRM 902 oil	BS EN 50343 (24 hours at 50°C (122°F) 10 cycles with Crockmeter)	Print legible
Hydrochloric acid 5% solution	BS EN 50343 (1 minute at 23°C (73°F) 10 cycles with Crockmeter)	Print legible
Sodium Hydroxide 5% solution	BS EN 50343 (1 minute at 23°C (73°F) 10 cycles with Crockmeter)	Print legible
Heat Aging	BS EN 50343 (240hrs 120°C (248°F), 10 cycles with Crockmeter)	Print legible
Wash cycle test	25 cycles at 75°C (167°F), 25 wipes with cloth	Print legible

Page 4 of 5

Business locations:

☎ N America: + 1 650 361 3860 (West Coast)
☎ France: +33 (0) 476 099696 (Labels)
☎ Germany: + 49 (0) 6074 89080
☎ UK: + 44 (0) 1495 244000 (Labels)
☎ Japan: + 81 (0) 44 900 5102

☎ N America: + 1 401 751 6505 (East Coast)
☎ France: + 33 (0) 134 20 21 22 (Other products)
☎ UK: + 44 (0) 1793 528171 (Other products)
☎ Singapore: + 65 (0) 4866 151

All the above information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. TE Connectivity makes no warranties as to the accuracy or completeness of the information and disclaims any liability regarding its use. TE Connectivity only obligations are those in the Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising from the sale, resale, use or misuse of the product. TE Connectivity Specifications are subject to change without notice. In addition TE Connectivity reserves the right to make changes in materials or processing, without notification to the Buyer, which do not affect compliance with any applicable specification.



TECHNICAL DATA SHEET

Document number: TTDS-108

Issue: 5

Date: May 2012

HX-SCE Heat shrinkable sleeves

FLUID RESISTANCE, DETAIL:

(Continued)

THREAT	TEST	EFFECT
Aircraft fuel (ISO 1817 Liquid B)	24 hours at 40°C (104°F) then 25 strokes dry tissue; IEC 60684-2 – Tensile Strength and Ultimate Elongation	Print legible; 4MPa TS & 90% UE retained
Silicone fluid (S1714)	24 hours at 50°C (122°F) then 25 strokes dry tissue; IEC 60684-2 – Tensile Strength and Ultimate Elongation	Print legible; 4MPa TS & 90% UE retained
Propan-2-ol	24 hours at 23°C (73°F) then 25 strokes dry tissue; IEC 60684-2 – Tensile Strength and Ultimate Elongation	Print legible; 4MPa TS & 90% UE retained
De-icing fluid (50% ethylene glycol in water)	24 hours at 23°C (73°F) then 25 strokes dry tissue; IEC 60684-2 – Tensile Strength and Ultimate Elongation	Print legible; 4MPa TS & 90% UE retained
Sullage fluid (formaldehyde/cresol)	24 hours at 23°C (73°F) then 25 strokes dry tissue; IEC 60684-2 – Tensile Strength and Ultimate Elongation	Print legible; 4MPa TS & 90% UE retained

Page 5 of 5

Business locations:

☎ N America: + 1 650 361 3860 (West Coast)
☎ France: +33 (0) 476 099696 (Labels)
☎ Germany: + 49 (0) 6074 89080
☎ UK: + 44 (0) 1495 244000 (Labels)
☎ Japan: + 81 (0) 44 900 5102

☎ N America: + 1 401 751 6505 (East Coast)
☎ France: + 33 (0) 134 20 21 22 (Other products)
☎ UK: + 44 (0) 1793 528171 (Other products)
☎ Singapore: + 65 (0) 4866 151

All the above information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. TE Connectivity makes no warranties as to the accuracy or completeness of the information and disclaims any liability regarding its use. TE Connectivity only obligations are those in the Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising from the sale, resale, use or misuse of the product. TE Connectivity Specifications are subject to change without notice. In addition TE Connectivity reserves the right to make changes in materials or processing, without notification to the Buyer, which do not affect compliance with any applicable specification.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А