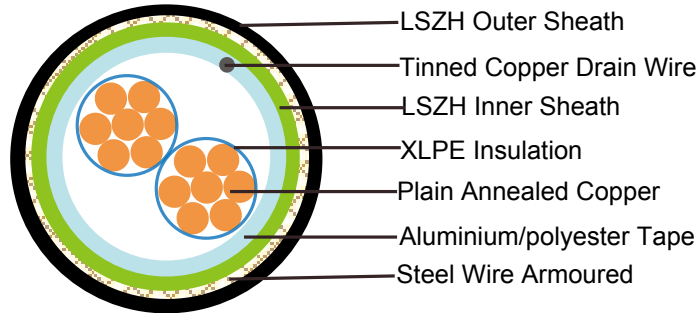




Flame Retardant Overall Screened Instrumentation Cables (multicore)

RE-2X(St)H
RE-2X(St)HSAH



APPLICATION

The unarmoured LSZH versions (Part 1 Type 1&2) cables are generally use for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services, Also used for the interconnection of electrical equipment and instruments, the LSZH sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part1 Type1 & 2

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC(EN) 60228 class 2 and 5 .

Insulation: Extruded cross-linked XLPE compound.

Overall Screen: Aluminium/polyester tape with 0.5mm² screen (7/0.3mm) tinned copper drain wire.

Inner Sheath(optional): LSZH compound

Armouring(optional): Galvanised steel wire

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

COLOUR CODE

Insulation Colour: See technical information

Outer sheath: Black or blue

PHYSICAL AND THERMAL PROPERTIES

Temperature range during operation: Max.90°C for XLPE
250°C in short-circuit for 5s max.

Minimum bending radius: 8 x Overall Diameter (unarmoured cable)
10 x Overall Diameter (armoured cable)

CONSTRUCTION PARAMETERS

Conductor		Nominal Insulation Thickness	RE-2X(St)H		RE-2X(St)HSAH			
No. of Core X Cross Section	No./ Nominal Diameter of Strands		Unarmoured		Armoured			
			Nominal Overall Diameter	Approx. Weight	Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
mm ²	No./mm	mm	mm	kg/km	mm	mm	mm	kg/km
2x0.5	16/0.20	0.6	7.0	50	7.0	0.90	11.4	237
3x0.5	16/0.20	0.6	7.3	59	7.3	0.90	11.7	254
4x0.5	16/0.20	0.6	7.9	69	7.9	0.90	12.3	278
6x0.5	16/0.20	0.6	9.3	94	9.3	0.90	13.9	345
10x0.5	16/0.20	0.6	11.9	147	11.9	0.90	16.7	470
20x0.5	16/0.20	0.6	14.9	253	14.9	1.25	20.6	759
40x0.5	16/0.20	0.6	20.1	444	20.1	1.60	26.7	1229
2x0.75	24/0.20	0.6	7.3	57	7.3	0.90	11.7	251
3x0.75	24/0.20	0.6	7.7	68	7.7	0.90	12.1	272
4x0.75	24/0.20	0.6	8.3	81	8.3	0.90	12.9	310
6x0.75	24/0.20	0.6	9.9	114	9.9	0.90	14.5	379
10x0.75	24/0.20	0.6	12.7	179	12.7	0.90	17.5	522



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20x0.75	24/0.20	0.6	16.0	311	16.0	1.25	21.7	858
40x0.75	24/0.20	0.6	21.7	555	21.7	1.60	28.5	1420
2x1.5	7/0.53	0.6	8.3	78	8.3	0.90	12.9	300
3x1.5	7/0.53	0.6	8.9	103	8.9	0.90	13.5	345
4x1.5	7/0.53	0.6	9.7	125	9.7	0.90	14.3	377
6x1.5	7/0.53	0.6	11.7	163	11.7	0.90	16.3	490
10x1.5	7/0.53	0.6	14.7	285	14.7	1.25	20.4	773
20x1.5	7/0.53	0.6	18.7	504	18.7	1.60	25.3	1262
40x1.5	7/0.53	0.6	24.6	935	24.6	1.60	31.6	1968

Note : Other conductor sizes & core configurations are available upon request.



300/500V

Rated Voltage



BS 5308

Standard



Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24
EN50266-2-4



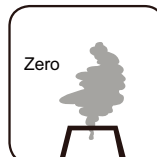
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074



Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073

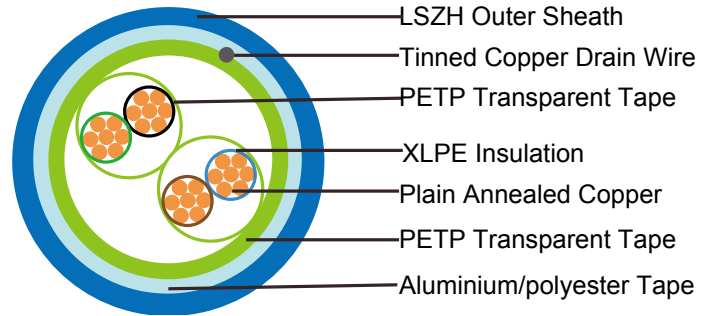


Zero

Halogen Free
IEC60754-1
EN50267-2-1

Flame Retardant Overall Screened Instrumentation Cables (multipair)

RE-2X(St)H



APPLICATION

The unarmoured LSZH versions (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services, Also used for the interconnection of electrical equipment and instruments, the LSZH sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 1 Type 1

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

300/500V



CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² multistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360

Insulation: XLPE (Cross Linked Polyethylene), or PE (optional)

Pairs: Two insulated conductors uniformly twisted together with a lay not exceeding 100mm

Binder tape: PETP transparent tape

Overall Screen: Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

COLOUR CODE

Insulation Colour: See technical information

Outer sheath: Black or blue

PHYSICAL AND THERMAL PROPERTIES

Maximum Operating temperature: -20°C - + 90°C(fixed installation)
0°C - +50°C(during operation)

Minimum bending radius: 5 x Overall Diameter

ELECTRICAL PROPERTIES

Conductor Area Size	mm ²	0.5	0.5	0.75	1.0	1.5
Conductor Stranding	No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
Conductor resistance max	ohm/km	36.8	39.7	26.5	18.2	12.3
Insulation resistance min	Gohm/km	5	5	5	5	5
Capacitance unbalance at 1 kHz(pair to pair screen)	pF/250m	250				
Max. Mutual Capacitance @ 1 kHz for Non OS or OS cables (except one-pair and two-pairs)	pF/m	115	115	115	115	115
Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)	pF/m	75	75	75	75	75
Max. L/R Ratio for adjacent cores(Inductance/Resistance)	µH/ohm	25	25	25	25	40
Test voltage	Core to core	V	1000	1000	1000	1000
	Core to screen	V	1000	1000	1000	1000

CONSTRUCTION PARAMETERS

Conductor			RE-2X(St)H			
Number of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm ²	mm	mm	mm	kg/km
1	1/0.80	0.5	0.5	0.8	5.5	35
2	1/0.80	0.5	0.5	0.8	6.8	55
5	1/0.80	0.5	0.5	1.1	10.9	125
10	1/0.80	0.5	0.5	1.2	14.4	215
15	1/0.80	0.5	0.5	1.2	16.5	300
20	1/0.80	0.5	0.5	1.3	18.8	385
30	1/0.80	0.5	0.5	1.3	22.3	545
50	1/0.80	0.5	0.5	1.5	28.5	875
1	16/0.20	0.5	0.6	0.8	6.2	60
2	16/0.20	0.5	0.6	0.8	7.6	80
5	16/0.20	0.5	0.6	1.1	12.4	210
10	16/0.20	0.5	0.6	1.2	16.5	340
15	16/0.20	0.5	0.6	1.3	19.2	440
20	16/0.20	0.5	0.6	1.3	21.7	570
30	16/0.20	0.5	0.6	1.5	26.4	780
50	16/0.20	0.5	0.6	1.7	33.4	1130
1	24/0.2	0.75	0.6	0.8	6.7	75
2	24/0.2	0.75	0.6	0.9	8.4	100
5	24/0.2	0.75	0.6	1.2	13.8	250
10	24/0.2	0.75	0.6	1.3	18.4	450
15	24/0.2	0.75	0.6	1.5	21.1	600
20	24/0.2	0.75	0.6	1.5	24.4	920
30	24/0.2	0.75	0.6	1.7	29.5	980
50	24/0.2	0.75	0.6	2	37.6	1690
1	1/1.13	1	0.6	0.8	6.6	85
2	1/1.13	1	0.6	0.8	8	115
5	1/1.13	1	0.6	1.2	13.5	290
10	1/1.13	1	0.6	1.2	17.7	500
15	1/1.13	1	0.6	1.3	20.6	670



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Number of Pairs	Conductor		RE-2X(St)H			
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm ²	mm	mm	mm	kg/km
20	1/1.13	1	0.6	1.5	23.8	950
30	1/1.13	1	0.6	1.5	28.4	1030
50	1/1.13	1	0.6	2	36.6	1750
1	7/0.53	1.5	0.6	0.8	7.5	100
2	7/0.53	1.5	0.6	0.9	9.3	150
5	7/0.53	1.5	0.6	1.2	15.6	360
10	7/0.53	1.5	0.6	1.3	20.9	690
15	7/0.53	1.5	0.6	1.5	24.6	880
20	7/0.53	1.5	0.6	1.5	27.8	1230
30	7/0.53	1.5	0.6	1.7	33.7	1560
50	7/0.53	1.5	0.6	2	43	2400



300/500V

Rated Voltage



BS 5308

Standard



Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24
EN50266-2-4



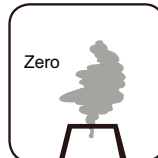
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074



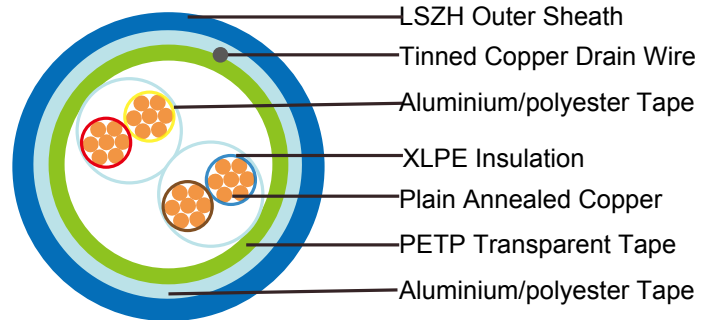
Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073



Halogen Free
IEC60754-1
EN50267-2-1

Flame Retardant Individual and Overall Screened Instrumentation Cables (multipair)

RE-2X(St)H Pimf



APPLICATION

The unarmoured LSZH versions (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services, Also used for the interconnection of electrical equipment and instruments, the LSZH sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 1 Type 1

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

300/500V



CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² multistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360

Insulation: XLPE (Cross Linked Polyethylene), or PE (optional)

Pairs: Two insulated conductors uniformly twisted together with a lay not exceeding 100mm

Individual Screen: Aluminium/polyester tape is applied over each pair metallic side down in contact with tinned copper drain wire, 0.5mm²

Binder tape: PETP transparent tape

Overall Screen: Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

COLOUR CODE

Insulation Colour: See technical information

Outer sheath: Black or blue

PHYSICAL AND THERMAL PROPERTIES

Maximum Operating temperature: -20°C - + 90°C(fixed installation)
0°C - +50°C(during operation)

Minimum bending radius: 5 x Overall Diameter

ELECTRICAL PROPERTIES

Conductor Area Size	mm ²	0.5	0.5	0.75	1.0	1.5
Conductor Stranding	No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
Conductor resistance max	ohm/km	36.8	39.7	26.5	18.2	12.3
Insulation resistance min	Gohm/km	5	5	5	5	5
Capacitance unbalance at 1 kHz(pair to pair screen)	pF/250m	250				
Max. Mutual Capacitance @ 1 kHz for Non OS or OS cables (except one-pair and two-pairs)	pF/m	115	115	115	115	115
Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)	pF/m	75	75	75	75	75
Max. L/R Ratio for adjacent cores(Inductance/Resistance)	µH/ohm	25	25	25	25	40

Test voltage	Core to core	V	1000	1000	1000	1000	1000
	Core to screen	V	1000	1000	1000	1000	1000
Rated voltage max		V	300/500	300/500	300/500	300/500	300/500

CONSTRUCTION PARAMETERS

Number of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No./mm	mm ²	mm	mm	mm	kg/km
2	1/0.8	0.5	0.5	0.9	9.7	95
5	1/0.8	0.5	0.5	1.2	13	180
10	1/0.8	0.5	0.5	1.2	16.9	310
15	1/0.8	0.5	0.5	1.3	19.7	440
20	1/0.8	0.5	0.5	1.3	22.3	560
30	1/0.8	0.5	0.5	1.5	27.1	820
50	1/0.8	0.5	0.5	2	35	1370
2	16/0.2	0.5	0.6	1.1	11.2	110
5	16/0.2	0.5	0.6	1.2	14.5	250
10	16/0.2	0.5	0.6	1.3	19.3	480
15	16/0.2	0.5	0.6	1.5	22.6	570
20	16/0.2	0.5	0.6	1.5	25.7	780
30	16/0.2	0.5	0.6	1.7	31	1020
50	16/0.2	0.5	0.6	2.2	39.9	1680
2	1/1.13	1	0.6	1.1	11.9	200
5	1/1.13	1	0.6	1.2	15.4	290
10	1/1.13	1	0.6	1.3	20.5	580
15	1/1.13	1	0.6	1.5	24.1	780
20	1/1.13	1	0.6	1.7	27.7	1010
30	1/1.13	1	0.6	2	33.7	1430
50	1/1.13	1	0.6	2.2	42.5	2360
2	7/0.53	1.5	0.6	1.2	13.6	250
5	7/0.53	1.5	0.6	1.3	17.7	460
10	7/0.53	1.5	0.6	1.5	23.9	760
15	7/0.53	1.5	0.6	1.7	28	1020
20	7/0.53	1.5	0.6	2	31.7	1350



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Number of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No./mm	mm ²	mm	mm	mm	kg/km
30	7/0.53	1.5	0.6	2.2	38.6	1900
50	7/0.53	1.5	0.6	2.2	48.9	3060



300/500V

Rated Voltage



BS 5308

Standard



Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24
EN50266-2-4



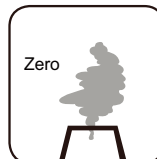
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074



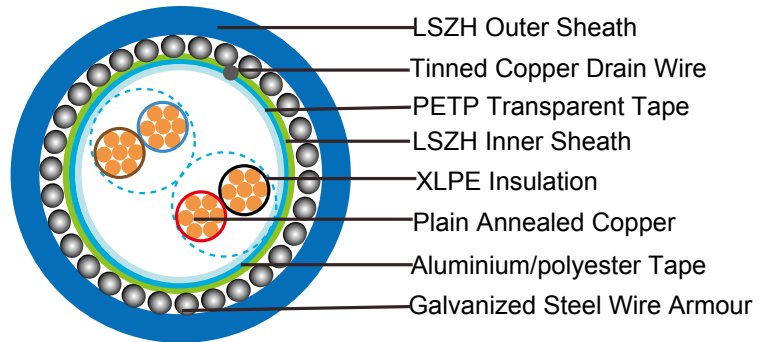
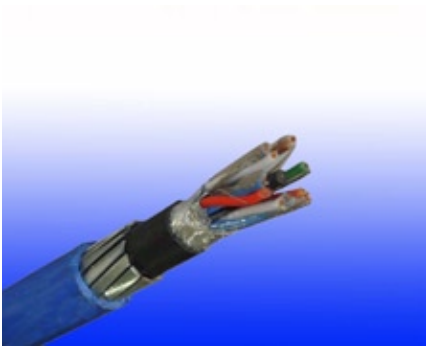
Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073



Halogen Free
IEC60754-1
EN50267-2-1

Flame Retardant Overall Screened, Armoured Instrumentation Cables (multipair)

RE-2X(St)HSAH



APPLICATION

The armoured LSZH versions (Part 1 Type 2) cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services, Also used for the interconnection of electrical equipment and instruments, the LSZH sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 1 Type 2

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.

VOLTAGE RATING

300/500V



CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² multistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360

Insulation: XLPE (Cross Linked Polyethylene), or PE (optional)

Pairs: Two insulated conductors uniformly twisted together with a lay not exceeding 100mm

Binder tape: PETP transparent tape

Overall Screen: Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²

Inner Sheath: LSOH(Low Smoke Zero Halogen) sheath

Armouring: Galvanized steel wire armour

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

COLOUR CODE

Insulation Colour: See technical information

Outer sheath: Black or blue

PHYSICAL AND THERMAL PROPERTIES

Maximum Operating temperature: -20°C - + 90°C(fixed installation)
0°C -+50°C(during operation)

Minimum bending radius: 6 x Overall Diameter

ELECTRICAL PROPERTIES

Conductor Area Size	mm ²	0.5	0.5	0.75	1.0	1.5	
Conductor Stranding	No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53	
Conductor resistance max	ohm/km	36.8	39.7	26.5	18.2	12.3	
Insulation resistance min	Gohm/km	5	5	5	5	5	
Capacitance unbalance at 1 kHz(pair to pair screen)	pF/250m	250					
Max. Mutual Capacitance @ 1 kHz for Non OS or OS cables (except one-pair and two-pairs)	pF/m	115	115	115	115	120	
Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)	pF/m	75	75	75	75	85	
Max. L/R Ratio for adjacent cores(Inductance/Resistance)	µH/ohm	25	25	25	25	40	
Test voltage	Core to core	V	1000	1000	1000	1000	1000
	Core to screen	V	1000	1000	1000	1000	1000
Rated voltage max	V	300/500	300/500	300/500	300/500	300/500	

CONSTRUCTION PARAMETERS

Number of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight	Nominal Thick-ness of Sheath	Nominal Dia. of Cable	Approx. Weight
	no./mm	mm ²	mm	mm	mm		kg/km	mm	mm
1	1/0.80	0.5	0.5	0.8	5.5	0.9	1.3	9.9	200
2	1/0.80	0.5	0.5	0.8	6.8	0.9	1.3	11.2	260
5	1/0.80	0.5	0.5	1.1	10.9	0.9	1.4	15.5	460
10	1/0.80	0.5	0.5	1.2	14.4	1.25	1.6	20.1	790
15	1/0.80	0.5	0.5	1.2	16.5	1.25	1.6	22.2	1100
20	1/0.80	0.5	0.5	1.3	18.8	1.6	1.7	25.4	1280
30	1/0.80	0.5	0.5	1.3	22.3	1.6	1.8	29.1	1520
50	1/0.80	0.5	0.5	1.5	28.5	1.6	2	35.7	2100
1	16/0.2	0.5	0.6	0.8	6.2	0.9	1.3	10.6	250
2	16/0.2	0.5	0.6	0.8	7.6	0.9	1.3	12	300
5	16/0.2	0.5	0.6	1.1	12.4	0.9	1.5	17.2	560
10	16/0.2	0.5	0.6	1.2	16.5	1.25	1.6	22.2	970
15	16/0.2	0.5	0.6	1.3	19.2	1.6	1.7	25.8	1240
20	16/0.2	0.5	0.6	1.3	21.7	1.6	1.8	28.5	1640
30	16/0.2	0.5	0.6	1.5	26.4	1.6	1.9	33.4	1770
50	16/0.2	0.5	0.6	1.7	33.4	2	2.1	41.6	2770
1	24/0.2	0.75	0.6	0.8	6.7	0.9	1.4	10.9	280
2	24/0.2	0.75	0.6	0.9	8.4	0.9	1.4	12.8	330
5	24/0.2	0.75	0.6	1.2	13.8	1.25	1.6	19.3	750
10	24/0.2	0.75	0.6	1.3	18.4	1.6	1.8	24.3	1260
15	24/0.2	0.75	0.6	1.3	21.1	1.6	1.9	27	1480
20	24/0.2	0.75	0.6	1.5	24.4	1.6	2	31.4	1890
30	24/0.2	0.75	0.6	1.7	29.5	2	2.1	37	2440
50	24/0.2	0.75	0.6	2	37.6	2.5	2.4	47.3	3210
1	1/1.13	1	0.6	0.8	6.6	0.9	1.3	11	290
2	1/1.13	1	0.6	0.8	8	0.9	1.4	12.6	345
5	1/1.13	1	0.6	1.2	13.5	1.25	1.5	19	790
10	1/1.13	1	0.6	1.2	17.7	1.25	1.7	23.6	1310
15	1/1.13	1	0.6	1.3	20.6	1.6	1.8	27.4	1740
20	1/1.13	1	0.6	1.5	23.8	1.6	1.8	30.6	2040



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Number of Pairs	No./Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight	Nominal Thickness of Sheath	Nominal Dia. of Cable	Approx. Weight
	no./mm	mm ²	mm	mm	mm	kg/km	mm	mm	kg/km
30	1/1.13	1	0.6	1.5	28.4	1.6	2	35.6	2180
50	1/1.13	1	0.6	2	36.6	2	2.2	45	3500
1	7/0.53	1.5	0.6	0.8	7.5	0.9	1.4	11.9	320
2	7/0.53	1.5	0.6	0.9	9.3	0.9	1.5	14.1	420
5	7/0.53	1.5	0.6	1.2	15.6	1.25	1.6	21.6	940
10	7/0.53	1.5	0.6	1.3	20.9	1.6	1.8	27.4	1500
15	7/0.53	1.5	0.6	1.5	24.6	1.6	1.9	31.2	1970
20	7/0.53	1.5	0.6	1.5	27.8	1.6	2	35.8	2400
30	7/0.53	1.5	0.6	1.7	33.7	2	2.2	42.3	3170
50	7/0.53	1.5	0.6	2	43	2.5	2.5	53.2	5020



300/500V

Rated Voltage



BS 5308

Standard



Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24
EN50266-2-4



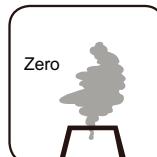
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074



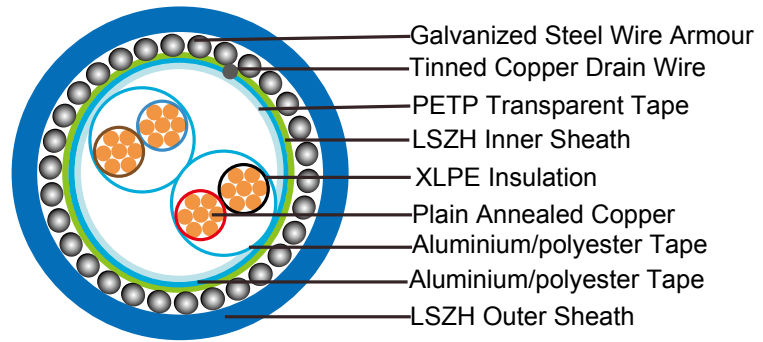
Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073



Halogen Free
IEC60754-1
EN50267-2-1

Flame Retardant Individual and Overall Screened, Armoured Instrumentation Cables (multipair)

RE-2X(St)HSWAH Pimf



APPLICATION

The armoured LSZH versions (Part 1 Type 2) cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services, Also used for the interconnection of electrical equipment and instruments, the LSZH sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 1 Type 2

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*
Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk * denotes superseded standard.



VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² multistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360

Insulation: XLPE (Cross Linked Polyethylene), or PE (optional)

Pairs: Two insulated conductors uniformly twisted together with a lay not exceeding 100mm

Individual Screen: Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²

Binder tape: PETP transparent tape

Overall Screen: Aluminium/polyester tape is applied over the laid up pairs metallic side down in contact with tinned copper drain wire, 0.5mm²

Inner Sheath: LSOH(Low Smoke Zero Halogen) sheath

Armouring: Galvanized steel wire armour

Outer Sheath: Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1 (Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

COLOUR CODE

Insulation Colour: See technical information

Outer Sheath: Black or blue

PHYSICAL AND THERMAL PROPERTIES

Maximum Operating temperature: -20°C - + 90°C(fixed installation)
0°C - +50°C(during operation)

Minimum bending radius: 6 x Overall Diameter

ELECTRICAL PROPERTIES

Conductor Area Size	mm ²	0.5	0.5	0.75	1.0	1.5
Conductor Stranding	No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
Conductor resistance max	ohm/km	36.8	39.7	26.5	18.2	12.3
Insulation resistance min	Gohm/km	5	5	5	5	5
Capacitance unbalance at 1 kHz(pair to pair screen)	pF/250m	250				
Max. Mutual Capacitance @ 1 kHz for Non OS or OS cables (except one-pair and two-pairs)	pF/m	115	115	115	115	120
Max. Mutual Capacitance @ 1 kHz IS/OS cables (include 1 pair and 2 pair)	pF/m	75	75	75	75	85

Max. L/R Ratio for adjacent cores(Inductance/Resistance)		µH/ohm	25	25	25	25	40
Test voltage	Core to core	V	1000	1000	1000	1000	1000
	Core to screen	V	1000	1000	1000	1000	1000
Rated voltage max		V	300/500	300/500	300/500	300/500	300/500

CONSTRUCTION PARAMETERS

No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Nominal Diameter Overall Inner Sheath	Nominal Armour Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm ²	mm	mm	mm	mm	mm	mm	kg/km
2	1/0.80	0.5	0.5	0.9	9.7	0.9	1.4	14.3	380
5	1/0.80	0.5	0.5	1.2	13	1.25	1.5	18.5	640
10	1/0.80	0.5	0.5	1.2	16.9	1.25	1.7	22.8	890
15	1/0.80	0.5	0.5	1.3	19.7	1.6	1.7	26.3	1350
20	1/0.80	0.5	0.5	1.3	22.3	1.6	1.8	29.1	1470
30	1/0.80	0.5	0.5	1.5	27.1	1.6	1.9	34.1	1870
50	1/0.80	0.5	0.5	2	35	2	2.2	43.4	3000
2	16/0.2	0.5	0.6	1.1	11.2	0.9	1.5	16	460
5	16/0.2	0.5	0.6	1.2	14.5	1.25	1.6	20.2	760
10	16/0.2	0.5	0.6	1.3	19.3	1.6	1.8	26.1	1300
15	16/0.2	0.5	0.6	1.5	22.6	1.6	1.8	29.4	1440
20	16/0.2	0.5	0.6	1.5	25.7	1.6	1.9	32.7	1870
30	16/0.2	0.5	0.6	1.7	31	2	2.1	39.2	2400
50	16/0.2	0.5	0.6	2.2	39.9	2.5	2.4	49.7	3930
2	24/0.2	0.75	0.6	1.1	12.1	0.9	1.5	16.9	500
5	24/0.2	0.75	0.6	1.2	15.7	1.25	1.6	21.4	920
10	24/0.2	0.75	0.6	1.3	20.9	1.6	1.7	27.5	1610
15	24/0.2	0.75	0.6	1.5	24.6	1.6	1.9	31.6	1960
20	24/0.2	0.75	0.6	1.5	27.9	1.6	1.9	34.9	2420
30	24/0.2	0.75	0.6	2	34.4	2	2.2	42.8	3180
50	24/0.2	0.75	0.6	2.2	43.5	2.5	2.5	53.5	4506
2	1/1.13	1	0.6	1.1	11.9	0.9	1.5	16.7	515
5	1/1.13	1	0.6	1.2	15.4	1.25	1.6	21.1	950
10	1/1.13	1	0.6	1.3	20.5	1.6	1.8	27.3	1330



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No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Nominal Diameter Overall Inner Sheath	Nominal Armour Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm ²	mm	mm	mm	mm	mm	mm	kg/km
15	1/1.13	1	0.6	1.5	24.1	1.6	1.9	31.1	1680
20	1/1.13	1	0.6	1.7	27.7	2	2	35.7	2540
30	1/1.13	1	0.6	2	33.7	2	2.2	42.1	2900
50	1/1.13	1	0.6	2.2	42.5	2.5	2.5	52.5	4800
2	7/0.53	1.5	0.6	1.2	13.6	1.25	1.6	19.3	730
5	7/0.53	1.5	0.6	1.3	17.7	1.6	1.7	24.3	1180
10	7/0.53	1.5	0.6	1.5	23.9	1.6	1.9	30.9	1820
15	7/0.53	1.5	0.6	1.7	28	2	2	36	2350
20	7/0.53	1.5	0.6	1.7	31.7	2	2.1	39.9	3030
30	7/0.53	1.5	0.6	2	38.6	2	2.5	48.6	4050
50	7/0.53	1.5	0.6	2.2	48.9	2	2.7	59.3	5960



300/500V

Rated Voltage



BS 5308

Standard



Flame Retardancy
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1



Reduced Fire Propagation
NF C32-070-2.2(C1)
IEC60332-3-24
EN50266-2-4



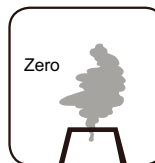
Low Toxicity
NES 02-713/NF C 20-454



Low Corrosivity
IEC60754-2
EN50267-2-2/3
NF C 32-074



Low Smoke Emission
IEC 61034-1&2
EN 50268-1&2/NF C32-073



Zero

Halogen Free
IEC60754-1
EN50267-2-1



Instrumentation Cables BS 5308 Part 1 Colour Code

BS 5308 Part 1 Colour Identification

Pair No.	a-wire	b-wire	Pair No.	a-wire	b-wire
1	Black	Blue	26	White	Yellow
2	Black	Green	27	Red	Yellow
3	Blue	Green	28	Orange	Yellow
4	Black	Brown	29	Black	Grey
5	Blue	Brown	30	Blue	Grey
6	Green	Brown	31	Green	Grey
7	Black	White	32	Brown	Grey
8	Blue	White	33	White	Grey
9	Green	White	34	Red	Grey
10	Brown	White	35	Orange	Grey
11	Black	Red	36	Yellow	Grey
12	Blue	Red	37	Black	Violet
13	Green	Red	38	Blue	Violet
14	Brown	Red	39	Green	Violet
15	White	Red	40	Brown	Violet
16	Black	Orange	41	White	Violet
17	Blue	Orange	42	Red	Violet
18	Green	Orange	43	Orange	Violet
19	Brown	Orange	44	Yellow	Violet
20	White	Orange	45	Grey	Violet
21	Red	Orange	46	Black	Turquoise
22	Black	Yellow	47	Blue	Turquoise
23	Blue	Yellow	48	Green	Turquoise
24	Green	Yellow	49	Brown	Turquoise
25	Brown	Yellow	50	White	Turquoise

Single Quad (2 pair) are colour coded in clockwise order of rotation: Black, Blue, Green and Brown
 Individually screened pairs can also be identified by means of a polyester tape over blue and black pairs

For cables in triple configuration please request colour code at time of enquiry
 Instrument Cables BS 5308 Part 2 Colour code



BS 5308 Part 2 Colour Identification

Pair No.	a-wire		b-wire	Pair No.	a-wire		b-wire
1	White		Blue	26	Red	Blue	Blue
2	White		Orange	27	Red	Blue	Orange
3	White		Green	28	Red	Blue	Green
4	White		Brown	29	Red	Blue	Brown
5	White		Grey	30	Red	Blue	Grey
6	Red		Blue	31	Blue	Black	Blue
7	Red		Orange	32	Blue	Black	Orange
8	Red		Green	33	Blue	Black	Green
9	Red		Brown	34	Blue	Black	Brown
10	Red		Grey	35	Blue	Black	Grey
11	Black		Blue	36	Yellow	Blue	Blue
12	Black		Orange	37	Yellow	Blue	Orange
13	Black		Green	38	Yellow	Blue	Green
14	Black		Brown	39	Yellow	Blue	Brown
15	Black		Grey	40	Yellow	Blue	Grey
16	Yellow		Blue	41	White	Orange	Blue
17	Yellow		Orange	42	White	Orange	Orange
18	Yellow		Green	43	White	Orange	Green
19	Yellow		Brown	44	White	Orange	Brown
20	Yellow		Grey	45	White	Orange	Grey
21	White	Blue	Blue	46	Orange	Red	Blue
22	White	Blue	Orange	47	Orange	Red	Orange
23	White	Blue	Green	48	Orange	Red	Green
24	White	Blue	Brown	49	Orange	Red	Brown
25	White	Blue	Grey	50	Orange	Red	Grey

*For bi- coloured cores the first colour is the base colour

Single Quad (2 pair) are colour coded in clockwise order of rotation: Black, Blue, Green and Brown
 Individually screened pairs can also be identified by means of a polyester tape over blue and black pairs

For cables in triple configuration please request colour code at time of enquiry