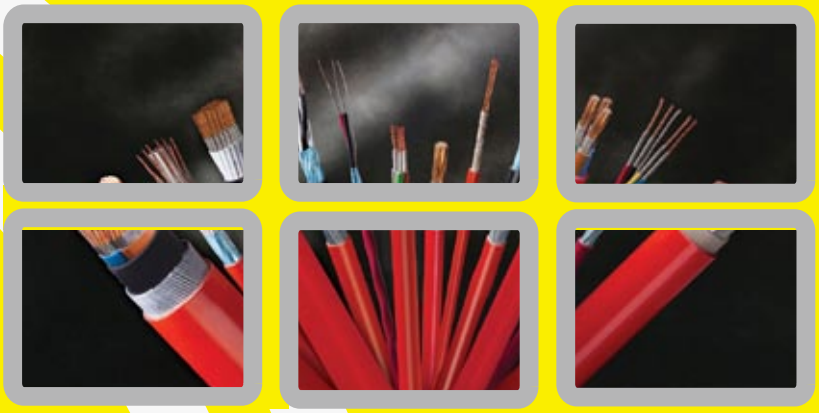


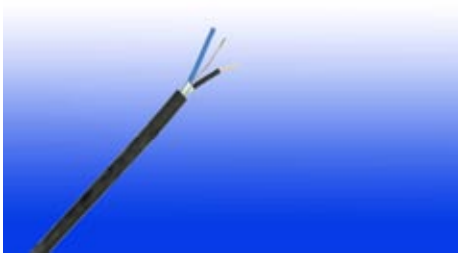
FIREGUARD
XLPE, PE&PVC Insulated
PVC Sheathed
Fire Retardant
Instrumentation Cables

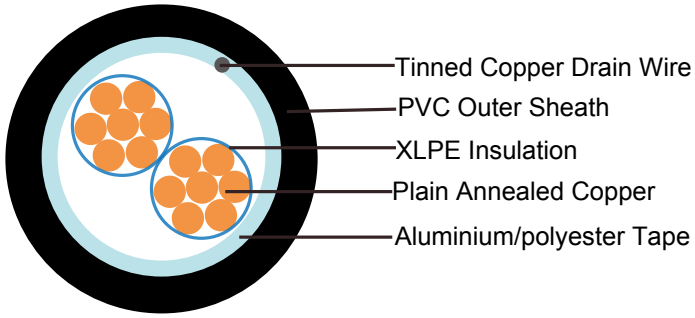
Caledonian

TABLE OF CONTENTS

XLPE Insulated, PVC Sheathed & Overall Screened Instrumentation Cables (Multicore)

RE-2X(St)Y





APPLICATION

The PVC sheathed (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 1.5mm², multistranded(Class 2) to BS6360.
Insulation: XLPE compound.
Overall Screen: Aluminium/polyester tape with tinned copper drain wire, 0.5mm²

Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
Minimum Bending Radius: 5 X Overall Diameter

ELECTRICAL PROPERTIES

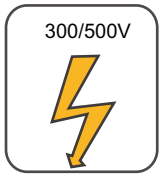
Conductor Area Size		mm^2	0.5	0.5	0.75	1.0	1.5
Conductor Stranding		No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
Conductor Resistance Max		ohm/km	36.8	39.7	26.5	18.2	12.3
Insulation Resistance Min		MΩ/km	1000	1000	1000	1000	1000
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Nominal Overall Diameter	Nominal Sheath Thickness	Approx. Weight
	No. of Core X Cross Section	No./Nominal Diameter of Strands				
	mm^2	No./mm	mm	mm	mm	kg/km
RE-2X(St)Y 2×1×0.5	2x0.5	16/0.20	0.6	7.0	0.8	50
RE-2X(St)Y 3×1×0.5	3x0.5	16/0.20	0.6	7.3	0.8	59
RE-2X(St)Y 4×1×0.5	4x0.5	16/0.20	0.6	7.9	0.8	69

RE-2X(St)Y 6×1×0.5	6x0.5	16/0.20	0.6	9.3	0.9	94
RE-2X(St)Y 10×1×0.5	10x0.5	16/0.20	0.6	11.9	1.1	147
RE-2X(St)Y 20×1×0.5	20x0.5	16/0.20	0.6	14.9	1.2	253
RE-2X(St)Y 40×1×0.5	40x0.5	16/0.20	0.6	20.1	1.3	444
RE-2X(St)Y 2×1×0.75	2x0.75	24/0.20	0.6	7.3	0.8	57
RE-2X(St)Y 3×1×0.75	3x0.75	24/0.20	0.6	7.7	0.8	68
RE-2X(St)Y 4×1×0.75	4x0.75	24/0.20	0.6	8.3	0.8	81
RE-2X(St)Y 6×1×0.75	6x0.75	24/0.20	0.6	9.9	0.9	114
RE-2X(St)Y 10×1×0.75	10x0.75	24/0.20	0.6	12.7	1.1	179
RE-2X(St)Y 20×1×0.75	20x0.75	24/0.20	0.6	16.0	1.2	311
RE-2X(St)Y 40×1×0.75	40x0.75	24/0.20	0.6	21.7	1.3	555
RE-2X(St)Y 2×1×1.5	2x1.5	7/0.53	0.6	8.3	0.8	78
RE-2X(St)Y 3×1×1.5	3x1.5	7/0.53	0.6	8.9	0.9	103
RE-2X(St)Y 4×1×1.5	4x1.5	7/0.53	0.6	9.7	0.9	125
RE-2X(St)Y 6×1×1.5	6x1.5	7/0.53	0.6	11.7	1.1	163
RE-2X(St)Y 10×1×1.5	10x1.5	7/0.53	0.6	14.7	1.2	285
RE-2X(St)Y 20×1×1.5	20x1.5	7/0.53	0.6	18.7	1.3	504
RE-2X(St)Y 40×1×1.5	40x1.5	7/0.53	0.6	24.6	1.5	935

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



Rated Voltage

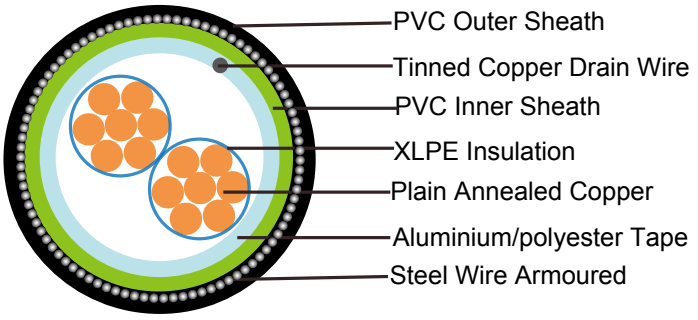
Standard

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

Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

XLPE Insulated, PVC Sheathed, Overall Screened & Armoured Instrumentation Cables (Multicore)

RE-2X(St)YSWAY



APPLICATION

The PVC sheathed (Part 1 Type 2) cables are generally use for indoor installation and suitable for wet and damp areas. The galvanized steel wire armour provides excellent protection. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 1.5mm², multistranded(Class 2) to BS6360.
Insulation: XLPE compound.

Overall Screen: Aluminium/polyester tape with tinned copper drain wire, 0.5mm²
Inner Sheath: PVC compound
Armouring: Galvanised steel wire
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	1000	1000	1000	1000	1000
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./ Nominal Diameter of Strands						
	mm^2	No./mm	mm	mm	mm	mm	mm	kg/km
RE-2X(St)YSWAY 2×1×0.5	2x0.5	16/0.20	0.6	7.0	0.90	1.3	11.4	237

RE-2X(St)YSWAY 3×1×0.5	3x0.5	16/0.20	0.6	7.3	0.90	1.3	11.7	254
RE-2X(St)YSWAY 4×1×0.5	4x0.5	16/0.20	0.6	7.9	0.90	1.3	12.3	278
RE-2X(St)YSWAY 6×1×0.5	6x0.5	16/0.20	0.6	9.3	0.90	1.4	13.9	345
RE-2X(St)YSWAY 10×1×0.5	10x0.5	16/0.20	0.6	11.9	0.90	1.5	16.7	470
RE-2X(St)YSWAY 20×1×0.5	20x0.5	16/0.20	0.6	14.9	1.25	1.6	20.6	759
RE-2X(St)YSWAY 40×1×0.5	40x0.5	16/0.20	0.6	20.1	1.60	1.7	26.7	1229
RE-2X(St)YSWAY 2×1×0.75	2x0.75	24/0.20	0.6	7.3	0.90	1.3	11.7	251
RE-2X(St)YSWAY 3×1×0.75	3x0.75	24/0.20	0.6	7.7	0.90	1.3	12.1	272
RE-2X(St)YSWAY 4×1×0.75	4x0.75	24/0.20	0.6	8.3	0.90	1.4	12.9	310
RE-2X(St)YSWAY 6×1×0.75	6x0.75	24/0.20	0.6	9.9	0.90	1.4	14.5	379
RE-2X(St)YSWAY 10×1×0.75	10x0.75	24/0.20	0.6	12.7	0.90	1.5	17.5	522
RE-2X(St)YSWAY 20×1×0.75	20x0.75	24/0.20	0.6	16.0	1.25	1.6	21.7	858
RE-2X(St)YSWAY 40×1×0.75	40x0.75	24/0.20	0.6	21.7	1.60	1.8	28.5	1420
RE-2X(St)YSWAY 2×1×1.5	2x1.5	7/0.53	0.6	8.3	0.90	1.4	12.9	300
RE-2X(St)YSWAY 3×1×1.5	3x1.5	7/0.53	0.6	8.9	0.90	1.4	13.5	345
RE-2X(St)YSWAY 4×1×1.5	4x1.5	7/0.53	0.6	9.7	0.90	1.4	14.3	377
RE-2X(St)YSWAY 6×1×1.5	6x1.5	7/0.53	0.6	11.7	0.90	1.4	16.3	490
RE-2X(St)YSWAY 10×1×1.5	10x1.5	7/0.53	0.6	14.7	1.25	1.6	20.4	773
RE-2X(St)YSWAY 20×1×1.5	20x1.5	7/0.53	0.6	18.7	1.60	1.7	25.3	1262
RE-2X(St)YSWAY 40×1×1.5	40x1.5	7/0.53	0.6	24.6	1.60	1.9	31.6	1968

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

Rated Voltage

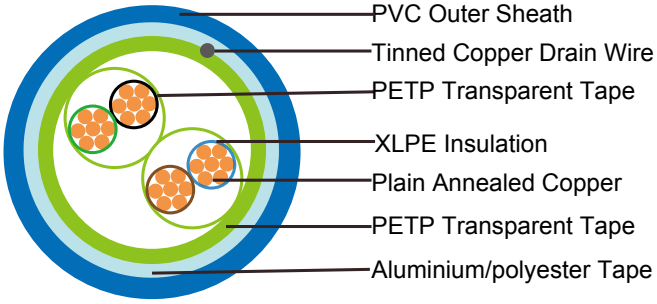
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

XLPE Insulated, PVC Sheathed & Overall Screened Instrumentation Cables (Multipair)

RE-2X(St)Y



APPLICATION

The unarmoured PVC sheathed (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: **XL**PE compound.
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 PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	1000	1000	1000	1000	1000
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor						
	No. 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
RE-2X(St)Y 1×2×0.5 1/0.8	1	1/0.80	0.5	0.5	0.8	5.5	35
RE-2X(St)Y 2×2×0.5 1/0.8	2	1/0.80	0.5	0.5	0.8	6.8	55
RE-2X(St)Y 5×2×0.5 1/0.8	5	1/0.80	0.5	0.5	1.1	10.9	125
RE-2X(St)Y 10×2×0.5 1/0.8	10	1/0.80	0.5	0.5	1.2	14.4	215
RE-2X(St)Y 15×2×0.5 1/0.8	15	1/0.80	0.5	0.5	1.2	16.5	300
RE-2X(St)Y 20×2×0.5 1/0.8	20	1/0.80	0.5	0.5	1.3	18.8	385
RE-2X(St)Y 30×2×0.5 1/0.8	30	1/0.80	0.5	0.5	1.3	22.3	545
RE-2X(St)Y 50×2×0.5 1/0.8	50	1/0.80	0.5	0.5	1.5	28.5	875
RE-2X(St)Y 1×2×0.5 16/0.2	1	16/0.20	0.5	0.6	0.8	6.2	60
RE-2X(St)Y 2×2×0.5 16/0.2	2	16/0.20	0.5	0.6	0.8	7.6	80
RE-2X(St)Y 5×2×0.5 16/0.2	5	16/0.20	0.5	0.6	1.1	12.4	210
RE-2X(St)Y 10×2×0.5 16/0.2	10	16/0.20	0.5	0.6	1.2	16.5	340
RE-2X(St)Y 15×2×0.5 16/0.2	15	16/0.20	0.5	0.6	1.3	19.2	440
RE-2X(St)Y 20×2×0.5 16/0.2	20	16/0.20	0.5	0.6	1.3	21.7	570
RE-2X(St)Y 30×2×0.5 16/0.2	30	16/0.20	0.5	0.6	1.5	26.4	780
RE-2X(St)Y 50×2×0.5 16/0.2	50	16/0.20	0.5	0.6	1.7	33.4	1130
RE-2X(St)Y 1×2×0.75 24/0.2	1	24/0.2	0.75	0.6	0.8	6.7	75
RE-2X(St)Y 2×2×0.75 24/0.2	2	24/0.2	0.75	0.6	0.9	8.4	100
RE-2X(St)Y 5×2×0.75 24/0.2	5	24/0.2	0.75	0.6	1.2	13.8	250
RE-2X(St)Y 10×2×0.75 24/0.2	10	24/0.2	0.75	0.6	1.3	18.4	450
RE-2X(St)Y 15×2×0.75 24/0.2	15	24/0.2	0.75	0.6	1.5	21.1	600
RE-2X(St)Y 20×2×0.75 24/0.2	20	24/0.2	0.75	0.6	1.5	24.4	920
RE-2X(St)Y 30×2×0.75 24/0.2	30	24/0.2	0.75	0.6	1.7	29.5	980
RE-2X(St)Y 50×2×0.75 24/0.2	50	24/0.2	0.75	0.6	2	37.6	1690
RE-2X(St)Y 1×2×1 1/1.13	1	1/1.13	1	0.6	0.8	6.6	85
RE-2X(St)Y 2×2×1 1/1.13	2	1/1.13	1	0.6	0.8	8	115
RE-2X(St)Y 5×2×1 1/1.13	5	1/1.13	1	0.6	1.2	13.5	290
RE-2X(St)Y 10×2×1 1/1.13	10	1/1.13	1	0.6	1.2	17.7	500
RE-2X(St)Y 15×2×1 1/1.13	15	1/1.13	1	0.6	1.3	20.6	670

Cable Code	Conductor						
	No. 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
RE-2X(St)Y 20×2×1 1/1.13	20	1/1.13	1	0.6	1.5	23.8	950
RE-2X(St)Y 30×2×1 1/1.13	30	1/1.13	1	0.6	1.5	28.4	1030
RE-2X(St)Y 50×2×1 1/1.13	50	1/1.13	1	0.6	2	36.6	1750
RE-2X(St)Y 1×2×1.5 7/0.53	1	7/0.53	1.5	0.6	0.8	7.5	100
RE-2X(St)Y 2×2×1.5 7/0.53	2	7/0.53	1.5	0.6	0.9	9.3	150
RE-2X(St)Y 5×2×1.5 7/0.53	5	7/0.53	1.5	0.6	1.2	15.6	360
RE-2X(St)Y 10×2×1.5 7/0.53	10	7/0.53	1.5	0.6	1.3	20.9	690
RE-2X(St)Y 15×2×1.5 7/0.53	15	7/0.53	1.5	0.6	1.5	24.6	880
RE-2X(St)Y 20×2×1.5 7/0.53	20	7/0.53	1.5	0.6	1.5	27.8	1230
RE-2X(St)Y 30×2×1.5 7/0.53	30	7/0.53	1.5	0.6	1.7	33.7	1560
RE-2X(St)Y 50×2×1.5 7/0.53	50	7/0.53	1.5	0.6	2	43	2400

Rated Voltage

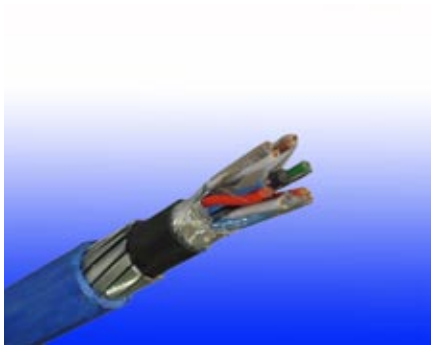
Standard

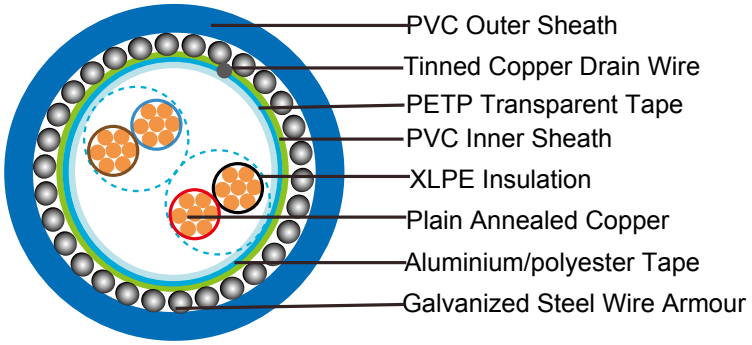

Flame Retardancy**
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

XLPE Insulated, PVC Sheathed, Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-2X(St)YSWAY





APPLICATION

The armoured PVC sheathed (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, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

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

Insulation: XLPE compound.
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: PVC compound
Amouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	1000	1000	1000	1000	1000
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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	Conductor		RE-2X(St)YSWAY						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm^2	mm	mm	mm	mm	mm	mm	kg/km
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

No.of Pairs	Conductor		RE-2X(St)YSWAY						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer 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	1.3	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
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

Rated Voltage

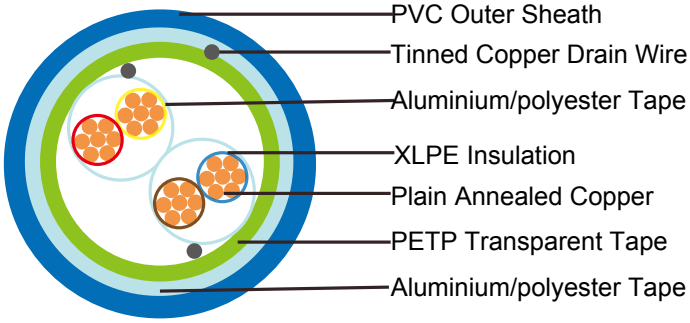
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

XLPE Insulated, PVC Sheathed, Individual and Overall Screened Instrumentation Cables (Multipair)

RE-2X(St)Y PiMF



APPLICATION

The unarmoured PVC sheathed (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: XLPE compound.
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 PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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	MΩ/km	1000	1000	1000	1000	1000
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)	pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)	pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)	pF/m	115	115	115	115	115
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

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

Cable Code	No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No	No./mm	mm^2	mm	mm	mm	kg/km
RE-2X(St)Y PiMF 20×2×1.5 7/0.53	20	7/0.53	1.5	0.6	2	31.7	1350
RE-2X(St)Y PiMF 30×2×1.5 7/0.53	30	7/0.53	1.5	0.6	2.2	38.6	1900
RE-2X(St)Y PiMF 50×2×1.5 7/0.53	50	7/0.53	1.5	0.6	2.2	48.9	3060

Rated Voltage

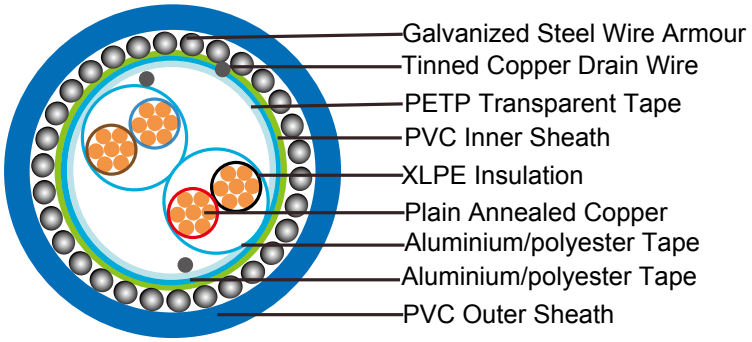
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

XLPE Insulated, PVC Sheathed, Individual and Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-2X(St)YSWAY PiMF



APPLICATION

The armoured PVC sheathed (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, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

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

Insulation: XLPE compound.
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: PVC compound
Amouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	1000	1000	1000	1000	1000
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz For non OS or OS Cables (Except 1 Pair and 2 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	Conductor		RE-2X(St)YSWAY PiMF						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer 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
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

No.of Pairs	Conductor		RE-2X(St)YSWAY PiMF						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm^2	mm	mm	mm	mm	mm	mm	kg/km
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

Rated Voltage

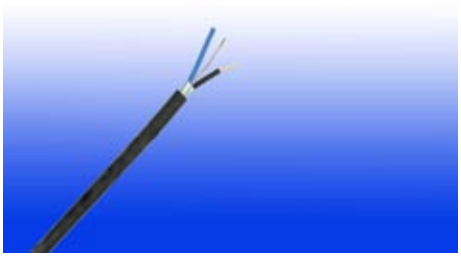
Standard

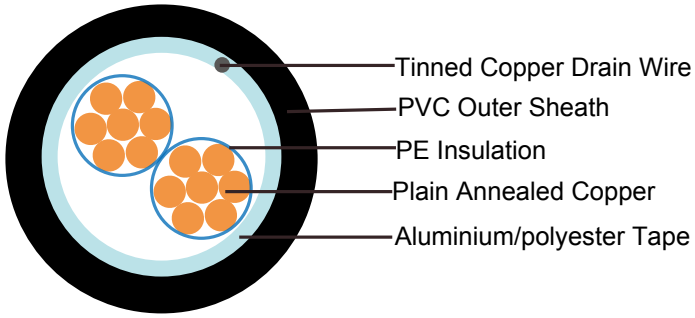

Flame Retardancy**
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PE Insulated, PVC Sheathed & Overall Screened Instrumentation Cables (Multicore)

RE-2Y(St)Y





APPLICATION

The PVC sheathed (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 1.5mm², multistranded(Class 2) to BS6360.
Insulation: PE compound.

Overall Screen: Aluminium/polyester tape with tinned copper drain wire, 0.5mm²
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
Minimum Bending Radius: 5 X Overall Diameter

ELECTRICAL PROPERTIES

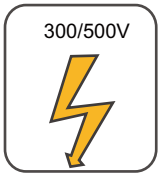
Conductor Area Size		mm^2	0.5	0.5	0.75	1.0	1.5
Conductor Stranding		No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
Conductor Resistance Max		ohm/km	36.8	39.7	26.5	18.2	12.3
Insulation Resistance Min		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Nominal Overall Diameter	Nominal Sheath Thickness	Approx. Weight
	No. of Core X Cross Section	No./Nominal Diameter of Strands				
	mm^2	No./mm	mm	mm	mm	kg/km
RE-2Y(St)Y 2×1×0.5	2x0.5	16/0.20	0.6	7.0	0.8	50
RE-2Y(St)Y 3×1×0.5	3x0.5	16/0.20	0.6	7.3	0.8	59
RE-2Y(St)Y 4×1×0.5	4x0.5	16/0.20	0.6	7.9	0.8	69
RE-2Y(St)Y 6×1×0.5	6x0.5	16/0.20	0.6	9.3	0.9	94

RE-2Y(St)Y 10×1×0.5	10x0.5	16/0.20	0.6	11.9	1.1	147
RE-2Y(St)Y 20×1×0.5	20x0.5	16/0.20	0.6	14.9	1.2	253
RE-2Y(St)Y 40×1×0.5	40x0.5	16/0.20	0.6	20.1	1.3	444
RE-2Y(St)Y 2×1×0.75	2x0.75	24/0.20	0.6	7.3	0.8	57
RE-2Y(St)Y 3×1×0.75	3x0.75	24/0.20	0.6	7.7	0.8	68
RE-2Y(St)Y 4×1×0.75	4x0.75	24/0.20	0.6	8.3	0.8	81
RE-2Y(St)Y 6×1×0.75	6x0.75	24/0.20	0.6	9.9	0.9	114
RE-2Y(St)Y 10×1×0.75	10x0.75	24/0.20	0.6	12.7	1.1	179
RE-2Y(St)Y 20×1×0.75	20x0.75	24/0.20	0.6	16.0	1.2	311
RE-2Y(St)Y 40×1×0.75	40x0.75	24/0.20	0.6	21.7	1.3	555
RE-2Y(St)Y 2×1×1.5	2x1.5	7/0.53	0.6	8.3	0.8	78
RE-2Y(St)Y 3×1×1.5	3x1.5	7/0.53	0.6	8.9	0.9	103
RE-2Y(St)Y 4×1×1.5	4x1.5	7/0.53	0.6	9.7	0.9	125
RE-2Y(St)Y 6×1×1.5	6x1.5	7/0.53	0.6	11.7	1.1	163
RE-2Y(St)Y 10×1×1.5	10x1.5	7/0.53	0.6	14.7	1.2	285
RE-2Y(St)Y 20×1×1.5	20x1.5	7/0.53	0.6	18.7	1.3	504
RE-2Y(St)Y 40×1×1.5	40x1.5	7/0.53	0.6	24.6	1.5	935

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



Rated Voltage

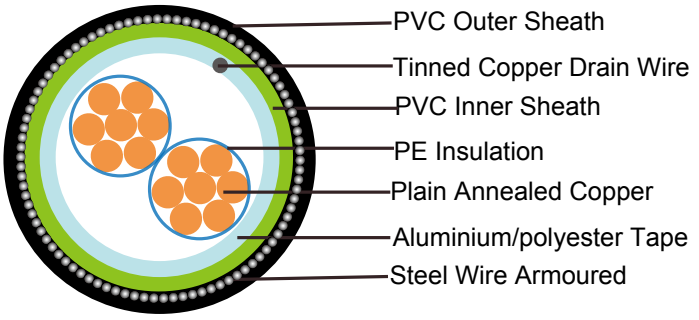
Standard

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

Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PE Insulated, PVC Sheathed, Overall Screened & Armoured Instrumentation Cables (Multicore)

RE-2Y(St)YSWAY



APPLICATION

The PVC sheathed (Part 1 Type 2) cables are generally use for indoor installation and suitable for wet and damp areas. The galvanized steel wire armour provides excellent protection. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 1.5mm², multistranded(Class 2) to BS6360.
Insulation: PE compound.
Overall Screen: Aluminium/polyester tape with tinned copper drain wire, 0.5mm²

Inner Sheath: PVC compound
Armouring: Galvanised steel wire
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor		Nominal Insulation Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./ Nominal Diameter of Strands						
	mm^2	No./mm	mm	mm	mm	mm	mm	kg/km
RE-2Y(St)YSWAY 2×1×0.5	2x0.5	16/0.20	0.6	7.0	0.90	1.3	11.4	237
RE-2Y(St)YSWAY 3×1×0.5	3x0.5	16/0.20	0.6	7.3	0.90	1.3	11.7	254
RE-2Y(St)YSWAY 4×1×0.5	4x0.5	16/0.20	0.6	7.9	0.90	1.3	12.3	278

RE-2Y(St)YSWAY 6×1×0.5	6x0.5	16/0.20	0.6	9.3	0.90	1.4	13.9	345
RE-2Y(St)YSWAY 10×1×0.5	10x0.5	16/0.20	0.6	11.9	0.90	1.5	16.7	470
RE-2Y(St)YSWAY 20×1×0.5	20x0.5	16/0.20	0.6	14.9	1.25	1.6	20.6	759
RE-2Y(St)YSWAY 40×1×0.5	40x0.5	16/0.20	0.6	20.1	1.60	1.7	26.7	1229
RE-2Y(St)YSWAY 2×1×0.75	2x0.75	24/0.20	0.6	7.3	0.90	1.3	11.7	251
RE-2Y(St)YSWAY 3×1×0.75	3x0.75	24/0.20	0.6	7.7	0.90	1.3	12.1	272
RE-2Y(St)YSWAY 4×1×0.75	4x0.75	24/0.20	0.6	8.3	0.90	1.4	12.9	310
RE-2Y(St)YSWAY 6×1×0.75	6x0.75	24/0.20	0.6	9.9	0.90	1.4	14.5	379
RE-2Y(St)YSWAY 10×1×0.75	10x0.75	24/0.20	0.6	12.7	0.90	1.5	17.5	522
RE-2Y(St)YSWAY 20×1×0.75	20x0.75	24/0.20	0.6	16.0	1.25	1.6	21.7	858
RE-2Y(St)YSWAY 40×1×0.75	40x0.75	24/0.20	0.6	21.7	1.60	1.8	28.5	1420
RE-2Y(St)YSWAY 2×1×1.5	2x1.5	7/0.53	0.6	8.3	0.90	1.4	12.9	300
RE-2Y(St)YSWAY 3×1×1.5	3x1.5	7/0.53	0.6	8.9	0.90	1.4	13.5	345
RE-2Y(St)YSWAY 4×1×1.5	4x1.5	7/0.53	0.6	9.7	0.90	1.4	14.3	377
RE-2Y(St)YSWAY 6×1×1.5	6x1.5	7/0.53	0.6	11.7	0.90	1.4	16.3	490
RE-2Y(St)YSWAY 10×1×1.5	10x1.5	7/0.53	0.6	14.7	1.25	1.6	20.4	773
RE-2Y(St)YSWAY 20×1×1.5	20x1.5	7/0.53	0.6	18.7	1.60	1.7	25.3	1262
RE-2Y(St)YSWAY 40×1×1.5	40x1.5	7/0.53	0.6	24.6	1.60	1.9	31.6	1968

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

Rated Voltage

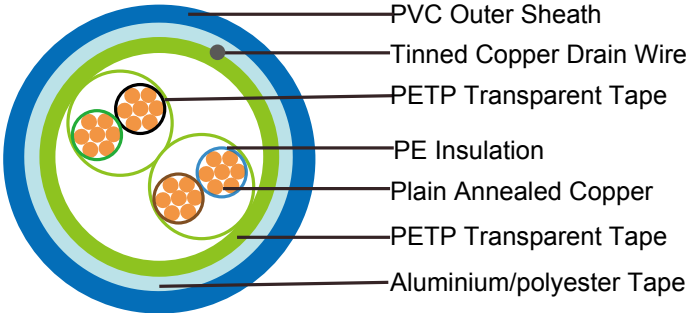
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PE Insulated, PVC Sheathed & Overall Screened Instrumentation Cables (Multipair)

RE-2Y(St)Y



APPLICATION

The unarmoured PVC sheathed (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: PE compound.
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 PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor						
	No. 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
RE-2Y(St)Y 1×2×0.5 1/0.8	1	1/0.80	0.5	0.5	0.8	5.5	35
RE-2Y(St)Y 2×2×0.5 1/0.8	2	1/0.80	0.5	0.5	0.8	6.8	55
RE-2Y(St)Y 5×2×0.5 1/0.8	5	1/0.80	0.5	0.5	1.1	10.9	125
RE-2Y(St)Y 10×2×0.5 1/0.8	10	1/0.80	0.5	0.5	1.2	14.4	215
RE-2Y(St)Y 15×2×0.5 1/0.8	15	1/0.80	0.5	0.5	1.2	16.5	300
RE-2Y(St)Y 20×2×0.5 1/0.8	20	1/0.80	0.5	0.5	1.3	18.8	385
RE-2Y(St)Y 30×2×0.5 1/0.8	30	1/0.80	0.5	0.5	1.3	22.3	545
RE-2Y(St)Y 50×2×0.5 1/0.8	50	1/0.80	0.5	0.5	1.5	28.5	875
RE-2Y(St)Y 1×2×0.5 16/0.2	1	16/0.20	0.5	0.6	0.8	6.2	60
RE-2Y(St)Y 2×2×0.5 16/0.2	2	16/0.20	0.5	0.6	0.8	7.6	80
RE-2Y(St)Y 5×2×0.5 16/0.2	5	16/0.20	0.5	0.6	1.1	12.4	210
RE-2Y(St)Y 10×2×0.5 16/0.2	10	16/0.20	0.5	0.6	1.2	16.5	340
RE-2Y(St)Y 15×2×0.5 16/0.2	15	16/0.20	0.5	0.6	1.3	19.2	440
RE-2Y(St)Y 20×2×0.5 16/0.2	20	16/0.20	0.5	0.6	1.3	21.7	570
RE-2Y(St)Y 30×2×0.5 16/0.2	30	16/0.20	0.5	0.6	1.5	26.4	780
RE-2Y(St)Y 50×2×0.5 16/0.2	50	16/0.20	0.5	0.6	1.7	33.4	1130
RE-2Y(St)Y 1×2×0.75 24/0.2	1	24/0.2	0.75	0.6	0.8	6.7	75
RE-2Y(St)Y 2×2×0.75 24/0.2	2	24/0.2	0.75	0.6	0.9	8.4	100
RE-2Y(St)Y 5×2×0.75 24/0.2	5	24/0.2	0.75	0.6	1.2	13.8	250
RE-2Y(St)Y 10×2×0.75 24/0.2	10	24/0.2	0.75	0.6	1.3	18.4	450
RE-2Y(St)Y 15×2×0.75 24/0.2	15	24/0.2	0.75	0.6	1.5	21.1	600
RE-2Y(St)Y 20×2×0.75 24/0.2	20	24/0.2	0.75	0.6	1.5	24.4	920
RE-2Y(St)Y 30×2×0.75 24/0.2	30	24/0.2	0.75	0.6	1.7	29.5	980
RE-2Y(St)Y 50×2×0.75 24/0.2	50	24/0.2	0.75	0.6	2	37.6	1690
RE-2Y(St)Y 1×2×1 1/1.13	1	1/1.13	1	0.6	0.8	6.6	85
RE-2Y(St)Y 2×2×1 1/1.13	2	1/1.13	1	0.6	0.8	8	115
RE-2Y(St)Y 5×2×1 1/1.13	5	1/1.13	1	0.6	1.2	13.5	290
RE-2Y(St)Y 10×2×1 1/1.13	10	1/1.13	1	0.6	1.2	17.7	500
RE-2Y(St)Y 15×2×1 1/1.13	15	1/1.13	1	0.6	1.3	20.6	670

Cable Code	Conductor						
	No. 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
RE-2Y(St)Y 20×2×1 1/1.13	20	1/1.13	1	0.6	1.5	23.8	950
RE-2Y(St)Y 30×2×1 1/1.13	30	1/1.13	1	0.6	1.5	28.4	1030
RE-2Y(St)Y 50×2×1 1/1.13	50	1/1.13	1	0.6	2	36.6	1750
RE-2Y(St)Y 1×2×1.5 7/0.53	1	7/0.53	1.5	0.6	0.8	7.5	100
RE-2Y(St)Y 2×2×1.5 7/0.53	2	7/0.53	1.5	0.6	0.9	9.3	150
RE-2Y(St)Y 5×2×1.5 7/0.53	5	7/0.53	1.5	0.6	1.2	15.6	360
RE-2Y(St)Y 10×2×1.5 7/0.53	10	7/0.53	1.5	0.6	1.3	20.9	690
RE-2Y(St)Y 15×2×1.5 7/0.53	15	7/0.53	1.5	0.6	1.5	24.6	880
RE-2Y(St)Y 20×2×1.5 7/0.53	20	7/0.53	1.5	0.6	1.5	27.8	1230
RE-2Y(St)Y 30×2×1.5 7/0.53	30	7/0.53	1.5	0.6	1.7	33.7	1560
RE-2Y(St)Y 50×2×1.5 7/0.53	50	7/0.53	1.5	0.6	2	43	2400

Rated Voltage

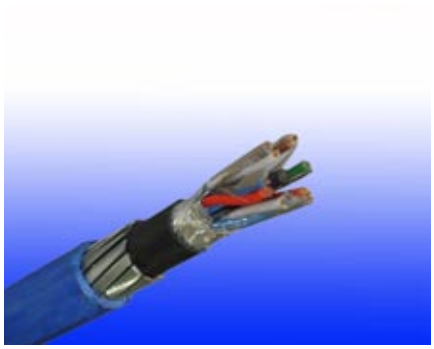
Standard

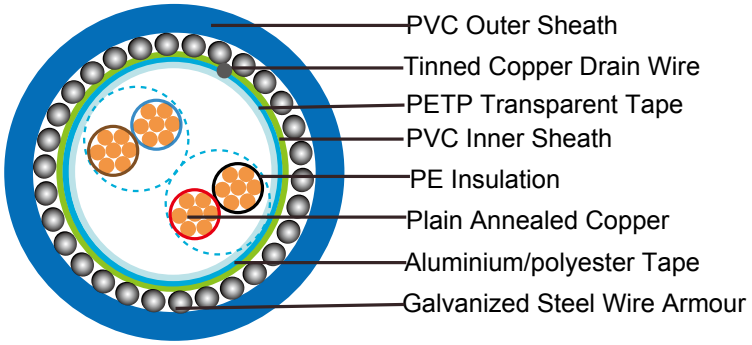

Flame Retardancy**
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PE Insulated, PVC Sheathed, Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-2Y(St)YSWAY





APPLICATION

The armoured PVC sheathed (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, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

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

Insulation: PE compound.
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: PVC compound
Amouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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	Conductor		RE-2Y(St)YSWAY						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm^2	mm	mm	mm	mm	mm	mm	kg/km
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

No.of Pairs	Conductor		RE-2Y(St)YSWAY						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer 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	1.3	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
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

Rated Voltage

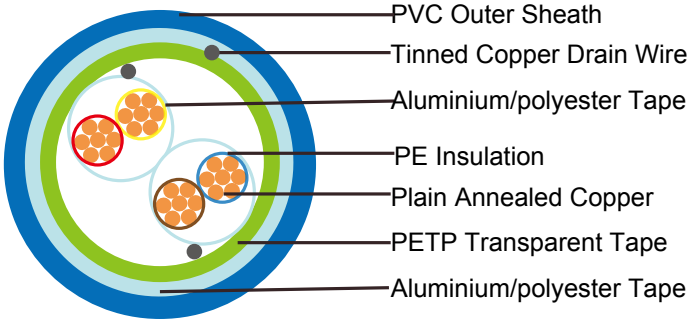
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PE Insulated, PVC Sheathed, Individual and Overall Screened Instrumentation Cables (Multipair)

RE-2Y(St)Y PiMF



APPLICATION

The unarmoured PVC sheathed (Part 1 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5

mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: PE compound.
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 PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
Minimum Bending Radius: 5 X Overall Diameter

ELECTRICAL PROPERTIES

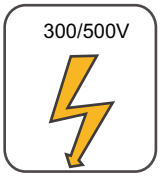
Conductor Area Size		mm ^{2}	0.5	0.5	0.75	1.0	1.5
Conductor Stranding		No. x mm	1 x 0.8	16 x 0.2	24 x 0.2	1 x 1.13	7 x 0.53
Conductor Resistance Max		ohm/km	36.8	39.7	26.5	18.2	12.3
Insulation Resistance Min		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

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

Cable Code	Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area				
	No	No./mm	mm^2	mm	mm	mm	kg/km
RE-2Y(St)Y PiMF 20×2×1.5 7/0.53	20	7/0.53	1.5	0.6	2	31.7	1350
RE-2Y(St)Y PiMF 30×2×1.5 7/0.53	30	7/0.53	1.5	0.6	2.2	38.6	1900
RE-2Y(St)Y PiMF 50×2×1.5 7/0.53	50	7/0.53	1.5	0.6	2.2	48.9	3060



Rated Voltage

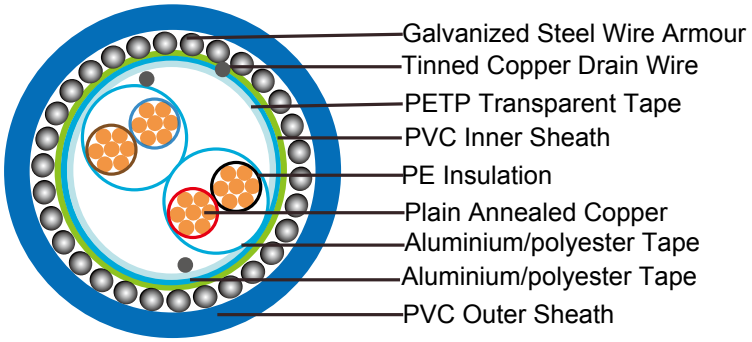
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PE Insulated, PVC Sheathed, Individual and Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-2Y(St)YSWAY PiMF



APPLICATION

The armoured PVC sheathed (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, the cables are 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 PVC 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

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

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: PVC compound
Amouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz For non OS or OS Cables (Except 1 Pair and 2 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	Conductor		RE-2Y(St)YSWAY PiMF						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer 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
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

No.of Pairs	Conductor		RE-2Y(St)YSWAY PiMF						
	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm^2	mm	mm	mm	mm	mm	mm	kg/km
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

Rated Voltage

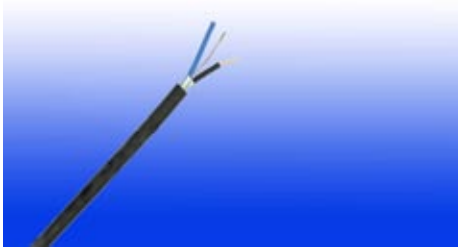
Standard

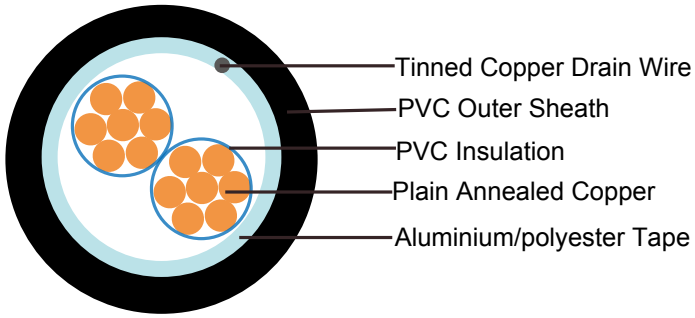

Flame Retardancy**
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PVC Insulated, PVC Sheathed & Overall Screened Instrumentation Cables (Multicore)

RE-Y(St)Y





APPLICATION

The PVC sheathed (Part 2 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 2 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5),

1.5mm², multistranded(Class 2) to BS6360.
Insulation: PVC.
Overall Screen: Aluminium/polyester tape with 0.5mm^2 screen (7/0.3mm) tinned copper drain wire.
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
Minimum Bending Radius: 5 X Overall Diameter

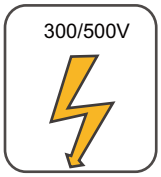
ELECTRICAL PROPERTIES

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		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

Cable Code	Conductor		Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./Nominal Diameter of Strands				
	mm^2	No./mm	mm	mm	mm	kg/km
RE-Y(St)Y 2×1×0.5	2x0.5	16/0.20	0.6	0.8	6.2	60
RE-Y(St)Y 3×1×0.5	3x0.5	16/0.20	0.6	0.8	6.6	75
RE-Y(St)Y 4×1×0.5	4x0.5	16/0.20	0.6	0.8	7.2	80
RE-Y(St)Y 6×1×0.5	6x0.5	16/0.20	0.6	0.9	8.6	110
RE-Y(St)Y 10×1×0.5	10x0.5	16/0.20	0.6	1.1	11.2	180
RE-Y(St)Y 20×1×0.5	20x0.5	16/0.20	0.6	1.2	14.2	310
RE-Y(St)Y 40×1×0.5	40x0.5	16/0.20	0.6	1.3	18.7	570
RE-Y(St)Y 80×1×0.5	80x0.5	16/0.20	0.6	1.5	26.5	1080
RE-Y(St)Y 2×1×0.75	2x0.75	24/0.20	0.6	0.8	6.7	75
RE-Y(St)Y 3×1×0.75	3x0.75	24/0.20	0.6	0.8	7.2	90
RE-Y(St)Y 4×1×0.75	4x0.75	24/0.20	0.6	0.8	7.8	100
RE-Y(St)Y 6×1×0.75	6x0.75	24/0.20	0.6	0.9	9.4	140
RE-Y(St)Y 10×1×0.75	10x0.75	24/0.20	0.6	1.1	12.2	220
RE-Y(St)Y 20×1×0.75	20x0.75	24/0.20	0.6	1.2	15.6	390
RE-Y(St)Y 40×1×0.75	40x0.75	24/0.20	0.6	1.3	20.6	710
RE-Y(St)Y 80×1×0.5	80x0.5	16/0.20	0.6	1.5	28.5	1350
RE-Y(St)Y 2×1×1.5	2x1.5	7/0.53	0.6	0.8	8	105
RE-Y(St)Y 3×1×1.5	3x1.5	7/0.53	0.6	0.9	8.2	135
RE-Y(St)Y 4×1×1.5	4x1.5	7/0.53	0.6	0.9	9	150
RE-Y(St)Y 6×1×1.5	6x1.5	7/0.53	0.6	1.1	11	205
RE-Y(St)Y 10×1×1.5	10x1.5	7/0.53	0.6	1.2	14	330
RE-Y(St)Y 20×1×1.5	20x1.5	7/0.53	0.6	1.3	17.9	580
RE-Y(St)Y 40×1×1.5	40x1.5	7/0.53	0.6	1.5	24	1065
RE-Y(St)Y 80×1×0.5	80x0.5	16/0.20	0.6	1.7	32.9	2025

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



Rated Voltage

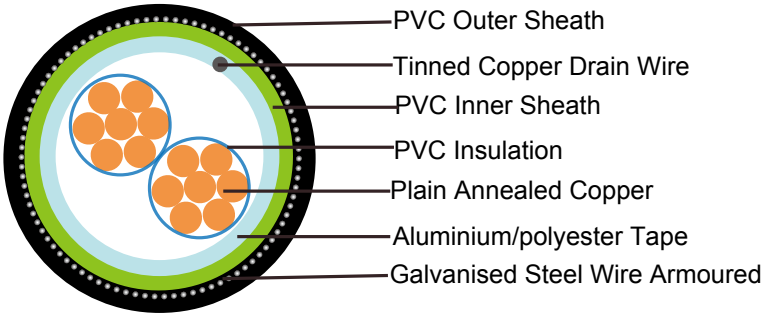
Standard

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

Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PVC Insulated, PVC Sheathed, Overall Screened & Armoured Instrumentation Cables (Multicore)

RE-Y(St)YSWAY



APPLICATION

The PVC sheathed (Part 2 Type 2) cables are generally use for indoor installation and suitable for wet and damp areas. The galvanized steel wire armour provides excellent protection. Generally, the cables are 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 PVC sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 2 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 1.5mm², multistranded(Class 2) to BS6360.

Insulation: PVC.
Overall Screen: Aluminium/polyester tape with 0.5mm^2 screen (7/0.3mm) tinned copper drain wire.
Inner Sheath: PVC compound
Armouring: Galvanised steel wire
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance Unbalance At 1 Khz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

Cable Code	Conductor		Nominal Insulation Thickness	Diameter Under Armour	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Core X Cross Section	No./ Nominal Diameter of Strands						
	mm^2	No./mm	mm	mm	mm	mm	mm	kg/km
RE-Y(St)YSWAY 2×1×0.5	2x0.5	16/0.20	0.6	7.0	0.90	1.3	11.1	255
RE-Y(St)YSWAY 3×1×0.5	3x0.5	16/0.20	0.6	7.3	0.90	1.3	11.3	280
RE-Y(St)YSWAY 4×1×0.5	4x0.5	16/0.20	0.6	7.9	0.90	1.3	11.6	305
RE-Y(St)YSWAY 6×1×0.5	6x0.5	16/0.20	0.6	9.3	0.90	1.4	13.2	360
RE-Y(St)YSWAY 10×1×0.5	10x0.5	16/0.20	0.6	11.9	0.90	1.5	16	510
RE-Y(St)YSWAY 20×1×0.5	20x0.5	16/0.20	0.6	14.9	1.25	1.6	19.9	960
RE-Y(St)YSWAY 40×1×0.5	40x0.5	16/0.20	0.6	20.1	1.60	1.7	25.3	1440
RE-Y(St)YSWAY 80×1×0.5	80x0.5	16/0.20	0.6	20.1	1.60	1.9	32.8	2200
RE-Y(St)YSWAY 2×1×0.75	2x0.75	24/0.20	0.6	7.3	0.90	1.3	11.2	280
RE-Y(St)YSWAY 3×1×0.75	3x0.75	24/0.20	0.6	7.7	0.90	1.3	11.6	305
RE-Y(St)YSWAY 4×1×0.75	4x0.75	24/0.20	0.6	8.3	0.90	1.3	12.4	335
RE-Y(St)YSWAY 6×1×0.75	6x0.75	24/0.20	0.6	9.9	0.90	1.4	14	400
RE-Y(St)YSWAY 10×1×0.75	10x0.75	24/0.20	0.6	12.7	0.90	1.5	17	565
RE-Y(St)YSWAY 20×1×0.75	20x0.75	24/0.20	0.6	16.0	1.25	1.6	21.3	950
RE-Y(St)YSWAY 40×1×0.75	40x0.75	24/0.20	0.6	21.7	1.60	1.7	27.4	1590
RE-Y(St)YSWAY 80×1×0.5	80x0.5	16/0.20	0.6	20.1	1.60	1.9	35.7	2450
RE-Y(St)YSWAY 2×1×1.5	2x1.5	7/0.53	0.6	8.3	0.90	1.4	12.6	330
RE-Y(St)YSWAY 3×1×1.5	3x1.5	7/0.53	0.6	8.9	0.90	1.4	12.8	380
RE-Y(St)YSWAY 4×1×1.5	4x1.5	7/0.53	0.6	9.7	0.90	1.4	13.6	420
RE-Y(St)YSWAY 6×1×1.5	6x1.5	7/0.53	0.6	11.7	0.90	1.4	15.6	540
RE-Y(St)YSWAY 10×1×1.5	10x1.5	7/0.53	0.6	14.7	1.25	1.6	19.7	750
RE-Y(St)YSWAY 20×1×1.5	20x1.5	7/0.53	0.6	18.7	1.60	1.7	24.5	1260
RE-Y(St)YSWAY 40×1×1.5	40x1.5	7/0.53	0.6	24.6	1.60	1.9	31	2140
RE-Y(St)YSWAY 80×1×0.5	80x0.5	16/0.20	0.6	20.1	1.60	2.1	41.1	3300

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

Rated Voltage

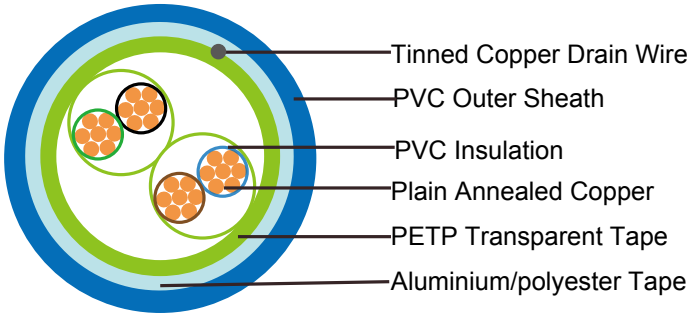
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PVC Insulated, PVC Sheathed & Overall Screened Instrumentation Cables (Multipair)

RE-Y(St)Y



APPLICATION

The unarmoured PVC sheathed (Part 2 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 2 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5

mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: PVC.
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 PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
Minimum Bending Radius: 5 X Overall Diameter

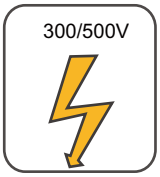
ELECTRICAL PROPERTIES

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		MΩ/km	500	500	500	500	500
Capacitance unbalance at 1 kHz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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

CONSTRUCTION PARAMETERS

Cable Code	Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area				
		no./mm	mm^2	mm	mm	mm	kg/km
RE-Y(St)Y 1×2×0.5 1/0.8	1	1/0.80	0.5	0.5	0.8	5.5	35
RE-Y(St)Y 2×2×0.5 1/0.8	2	1/0.80	0.5	0.5	0.8	6.8	55
RE-Y(St)Y 5×2×0.5 1/0.8	5	1/0.80	0.5	0.5	1.1	10.9	125
RE-Y(St)Y 10×2×0.5 1/0.8	10	1/0.80	0.5	0.5	1.2	14.4	215
RE-Y(St)Y 15×2×0.5 1/0.8	15	1/0.80	0.5	0.5	1.2	16.5	300
RE-Y(St)Y 20×2×0.5 1/0.8	20	1/0.80	0.5	0.5	1.3	18.8	385
RE-Y(St)Y 30×2×0.5 1/0.8	30	1/0.80	0.5	0.5	1.3	22.3	545
RE-Y(St)Y 50×2×0.5 1/0.8	50	1/0.80	0.5	0.5	1.5	28.5	875
RE-Y(St)Y 1×2×0.5 16/0.2	1	16/0.20	0.5	0.6	0.8	6.2	60
RE-Y(St)Y 2×2×0.5 16/0.2	2	16/0.20	0.5	0.6	0.8	7.6	80
RE-Y(St)Y 5×2×0.5 16/0.2	5	16/0.20	0.5	0.6	1.1	12.4	200
RE-Y(St)Y 10×2×0.5 16/0.2	10	16/0.20	0.5	0.6	1.2	16.5	340
RE-Y(St)Y 15×2×0.5 16/0.2	15	16/0.20	0.5	0.6	1.3	19.2	480
RE-Y(St)Y 20×2×0.5 16/0.2	20	16/0.20	0.5	0.6	1.3	21.7	570
RE-Y(St)Y 30×2×0.5 16/0.2	30	16/0.20	0.5	0.6	1.5	26.4	880
RE-Y(St)Y 50×2×0.5 16/0.2	50	16/0.20	0.5	0.6	1.7	33.4	1310
RE-Y(St)Y 1×2×0.75 24/0.2	1	24/0.2	0.75	0.6	0.8	6.7	75
RE-Y(St)Y 2×2×0.75 24/0.2	2	24/0.2	0.75	0.6	0.9	8.2	100
RE-Y(St)Y 5×2×0.75 24/0.2	5	24/0.2	0.75	0.6	1.2	13.8	250
RE-Y(St)Y 10×2×0.75 24/0.2	10	24/0.2	0.75	0.6	1.3	18.4	450
RE-Y(St)Y 15×2×0.75 24/0.2	15	24/0.2	0.75	0.6	1.5	21.1	600
RE-Y(St)Y 20×2×0.75 24/0.2	20	24/0.2	0.75	0.6	1.5	24.4	800
RE-Y(St)Y 30×2×0.75 24/0.2	30	24/0.2	0.75	0.6	1.7	29.5	1080
RE-Y(St)Y 50×2×0.75 24/0.2	50	24/0.2	0.75	0.6	2	37.6	1860
RE-Y(St)Y 1×2×1 1/1.13	1	1/1.13	1	0.6	0.8	6.6	85
RE-Y(St)Y 2×2×1 1/1.13	2	1/1.13	1	0.6	0.8	8	115
RE-Y(St)Y 5×2×1 1/1.13	5	1/1.13	1	0.6	1.2	13.5	290
RE-Y(St)Y 10×2×1 1/1.13	10	1/1.13	1	0.6	1.2	17.7	500

Cable Code	Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area				
		no./mm	mm^2	mm	mm	mm	kg/km
RE-Y(St)Y 15×2×1 1/1.13	15	1/1.13	1	0.6	1.3	20.6	670
RE-Y(St)Y 20×2×1 1/1.13	20	1/1.13	1	0.6	1.5	23.8	950
RE-Y(St)Y 30×2×1 1/1.13	30	1/1.13	1	0.6	1.5	28.4	1030
RE-Y(St)Y 50×2×1 1/1.13	50	1/1.13	1	0.6	2	36.6	1750
RE-Y(St)Y 1×2×1.5 7/0.53	1	7/0.53	1.5	0.6	0.8	7.5	100
RE-Y(St)Y 2×2×1.5 7/0.53	2	7/0.53	1.5	0.6	0.9	9.3	150
RE-Y(St)Y 5×2×1.5 7/0.53	5	7/0.53	1.5	0.6	1.2	15.6	360
RE-Y(St)Y 10×2×1.5 7/0.53	10	7/0.53	1.5	0.6	1.3	20.9	670
RE-Y(St)Y 15×2×1.5 7/0.53	15	7/0.53	1.5	0.6	1.5	24.6	970
RE-Y(St)Y 20×2×1.5 7/0.53	20	7/0.53	1.5	0.6	1.5	27.8	1230
RE-Y(St)Y 30×2×1.5 7/0.53	30	7/0.53	1.5	0.6	1.7	33.7	1730
RE-Y(St)Y 50×2×1.5 7/0.53	50	7/0.53	1.5	0.6	2	43	2740



Rated Voltage

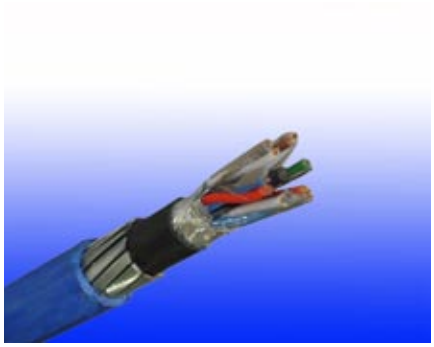
Standard

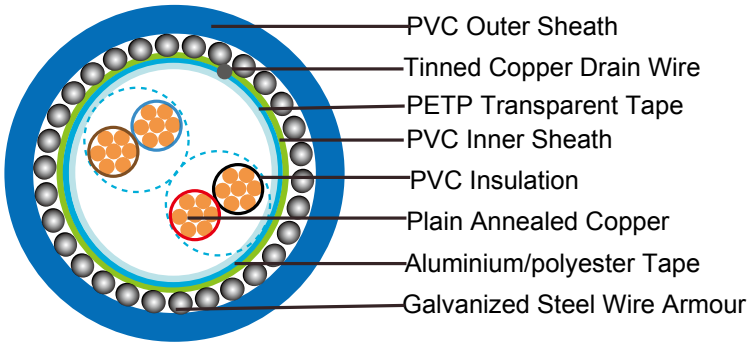

Flame Retardancy**
NF C32-070-2.1(C2)
IEC60332-1-2/EN50265-2-1


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PVC Insulated, PVC Sheathed, Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-Y(St)YSWAY





APPLICATION

The armoured PVC sheathed (Part 2 Type 2) cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally, the cables are 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 PVC sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 2 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5

mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: PVC.
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: PVC compound
Amouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance unbalance at 1 kHz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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 Sheath Thickness	Nominal Overall Diameter	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm^2	mm	mm	mm	kg/km	mm	mm	kg/km
1	1/0.80	0.5	0.5	0.8	5.5	0.9	1.3	10.6	260
2	1/0.80	0.5	0.5	0.8	6.8	0.9	1.3	11.5	305
5	1/0.80	0.5	0.5	1.1	10.9	0.9	1.5	17.2	610
10	1/0.80	0.5	0.5	1.2	14.4	1.25	1.6	22.2	1060
15	1/0.80	0.5	0.5	1.2	16.5	1.25	1.7	25.8	1330
20	1/0.80	0.5	0.5	1.3	18.8	1.6	1.8	28.5	1800
30	1/0.80	0.5	0.5	1.3	22.3	1.6	1.9	33.4	1980
50	1/0.80	0.5	0.5	1.5	28.5	1.6	2.1	41.6	3070
1	16/0.2	0.5	0.6	0.8	6.2	0.9	1.3	10.7	262
2	16/0.2	0.5	0.6	0.8	7.6	0.9	1.3	12.4	309
5	16/0.2	0.5	0.6	1.1	12.4	0.9	1.5	18.5	617
10	16/0.2	0.5	0.6	1.2	16.5	1.25	1.6	22.9	1069
15	16/0.2	0.5	0.6	1.3	19.2	1.6	1.7	26.7	1339
20	16/0.2	0.5	0.6	1.3	21.7	1.6	1.8	29.4	1811
30	16/0.2	0.5	0.6	1.5	26.4	1.6	1.9	35.3	1992
50	16/0.2	0.5	0.6	1.7	33.4	2	2.1	43.1	3084
1	24/0.2	0.75	0.6	0.8	6.7	0.9	1.3	11.1	305
2	24/0.2	0.75	0.6	0.9	8.4	0.9	1.4	12.3	360
5	24/0.2	0.75	0.6	1.2	13.8	1.25	1.5	19.3	820
10	24/0.2	0.75	0.6	1.3	18.4	1.6	1.7	25	1250
15	24/0.2	0.75	0.6	1.3	21.1	1.6	1.8	27.9	1600
20	24/0.2	0.75	0.6	1.5	24.4	1.6	1.8	31.2	1800
30	24/0.2	0.75	0.6	1.7	29.5	2	2	37.6	2570
50	24/0.2	0.75	0.6	2	37.6	2.5	2.3	47.3	3800
1	1/1.13	1	0.6	0.8	6.6	0.9	1.3	12.8	329
2	1/1.13	1	0.6	0.8	8	0.9	1.4	14.7	400
5	1/1.13	1	0.6	1.2	13.5	1.25	1.5	21.6	970
10	1/1.13	1	0.6	1.2	17.7	1.25	1.7	28	1420
15	1/1.13	1	0.6	1.3	20.6	1.6	1.8	30.4	1750
20	1/1.13	1	0.6	1.5	23.8	1.6	1.8	34.2	2180

No. of Pairs	No./ Nominal Diameter of Strands	Nominal Conductor Cross-Section Area	Nominal Insulation Thickness	Nominal Sheath Thickness	Nominal Overall Diameter	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	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	42.4	2860
50	1/1.13	1	0.6	2	36.6	2	2.3	51.3	4530
1	7/0.53	1.5	0.6	0.8	7.5	0.9	1.4	12.1	360
2	7/0.53	1.5	0.6	0.9	9.3	0.9	1.4	13.4	460
5	7/0.53	1.5	0.6	1.2	15.6	1.25	1.6	21.3	1040
10	7/0.53	1.5	0.6	1.3	20.9	1.6	1.8	27.7	1610
15	7/0.53	1.5	0.6	1.5	24.6	1.6	1.9	31.6	2060
20	7/0.53	1.5	0.6	1.5	27.8	1.6	2	35	2630
30	7/0.53	1.5	0.6	1.7	33.7	2	2.1	41.9	3460
50	7/0.53	1.5	0.6	2	43	2.5	2.4	52.8	5520

Rated Voltage

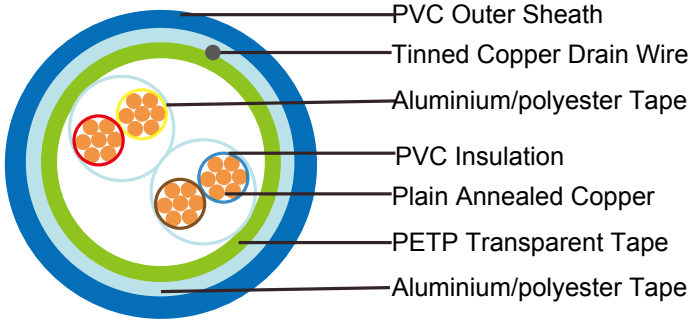
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PVC Insulated, PVC Sheathed, Individual and Overall Screened Instrumentation Cables (Multipair)

RE-Y(St)Y PiMF



APPLICATION

The unarmoured PVC sheathed (Part 2 Type 1) cables are generally use for indoor installation and suitable for wet and damp areas. Generally, the cables are 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 PVC sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 2 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

Conductor: Annealed or tinned copper, sizes: 0.5mm² and 0.75mm² mulitistranded(Class 5), 0.5 mm², 1.0 mm² solid(Class 1), 1.5mm² or 2.5mm², multistranded(Class 2) to BS6360
Insulation: PVC.
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 PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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	MΩ/km	500	500	500	500	500
Capacitance unbalance at 1 kHz(Pair to Pair Screen)	pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)	pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)	pF/m	115	115	115	115	115
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

Cable Code	No. 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
RE-Y(St)Y PiMF 2×2×0.5 1/0.8	2	1/0.8	0.5	0.5	0.9	9.7	95
RE-Y(St)Y PiMF 5×2×0.5 1/0.8	5	1/0.8	0.5	0.5	1.2	13	180
RE-Y(St)Y PiMF 10×2×0.5 1/0.8	10	1/0.8	0.5	0.5	1.2	16.9	310
RE-Y(St)Y PiMF 15×2×0.5 1/0.8	15	1/0.8	0.5	0.5	1.3	19.7	440
RE-Y(St)Y PiMF 20×2×0.5 1/0.8	20	1/0.8	0.5	0.5	1.3	22.3	560
RE-Y(St)Y PiMF 30×2×0.5 1/0.8	30	1/0.8	0.5	0.5	1.5	27.1	820
RE-Y(St)Y PiMF 50×2×0.5 1/0.8	50	1/0.8	0.5	0.5	2	35	1370
RE-Y(St)Y PiMF 2×2×0.5 16/0.2	2	16/0.2	0.5	0.6	1.1	11.2	170
RE-Y(St)Y PiMF 5×2×0.5 16/0.2	5	16/0.2	0.5	0.6	1.2	14.6	270
RE-Y(St)Y PiMF 10×2×0.5 16/0.2	10	16/0.2	0.5	0.6	1.3	19.4	520
RE-Y(St)Y PiMF 15×2×0.5 16/0.2	15	16/0.2	0.5	0.6	15	22.7	650
RE-Y(St)Y PiMF 20×2×0.5 16/0.2	20	16/0.2	0.5	0.6	1.5	25.9	860
RE-Y(St)Y PiMF 30×2×0.5 16/0.2	30	16/0.2	0.5	0.6	1.7	31.2	1130
RE-Y(St)Y PiMF 50×2×0.5 16/0.2	50	16/0.2	0.5	0.6	2.2	40.1	1880
RE-Y(St)Y PiMF 2×2×1 1/1.13	2	1/1.13	1	0.6	1.1	12.2	200
RE-Y(St)Y PiMF 5×2×1 1/1.13	5	1/1.13	1	0.6	1.2	15.8	355
RE-Y(St)Y PiMF 10×2×1 1/1.13	10	1/1.13	1	0.6	1.3	21.1	560
RE-Y(St)Y PiMF 15×2×1 1/1.13	15	1/1.13	1	0.6	1.5	24.9	770
RE-Y(St)Y PiMF 20×2×1 1/1.13	20	1/1.13	1	0.6	1.7	28.6	990
RE-Y(St)Y PiMF 30×2×1 1/1.13	30	1/1.13	1	0.6	2	34.7	1380
RE-Y(St)Y PiMF 50×2×1 1/1.13	50	1/1.13	1	0.6	2.2	43.9	2225
RE-Y(St)Y PiMF 2×2×1.5 7/0.53	2	7/0.53	1.5	0.6	1.2	13.6	265
RE-Y(St)Y PiMF 5×2×1.5 7/0.53	5	7/0.53	1.5	0.6	1.3	147.8	490
RE-Y(St)Y PiMF 10×2×1.5 7/0.53	10	7/0.53	1.5	0.6	1.5	24.1	820

Cable Code	No. 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
RE-Y(St)Y PiMF 15×2×1.5 7/0.53	15	7/0.53	1.5	0.6	1.7	28.2	1110
RE-Y(St)Y PiMF 20×2×1.5 7/0.53	20	7/0.53	1.5	0.6	1.7	31.9	1470
RE-Y(St)Y PiMF 30×2×1.5 7/0.53	30	7/0.53	1.5	0.6	2	38.8	2070
RE-Y(St)Y PiMF 50×2×1.5 7/0.53	50	7/0.53	1.5	0.6	2.2	49.1	3340

Rated Voltage

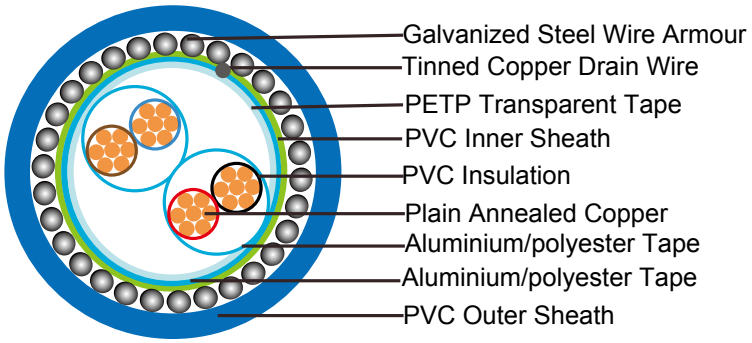
Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

PVC Insulated, PVC Sheathed, Individual and Overall Screened & Armoured Instrumentation Cables (Multipair)

RE-Y(St)YSWAY PiMF



APPLICATION

The armoured PVC sheathed (Part 2 Type 2) cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally, the cables are 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 PVC sheath can reduce toxic smoke and fume emission.

STANDARDS

Basic design to BS 5308 Part 2 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 60332-3-22 (cat. A); IEC 60332-3-22; BS EN 60332-3-22; 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

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

300/500V

CABLE CONSTRUCTION

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

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: PVC compound.
Amouring: Galvanized steel wire armour
Outer Sheath: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour: See Technical Information
Outer Sheath: Black Or Blue

PHYSICAL AND THERMAL PROPERTIES

Temperature Range During Operation (Fixed State): -30°C – +90°C
Temperature Range During Installation (Mobile State): -20°C – +50°C
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		MΩ/km	500	500	500	500	500
Capacitance unbalance at 1 kHz(Pair to Pair Screen)		pF/250m	250				
Max. Mutual Capacitance @ 1 Khz for non OS or OS Cables (Except 1 Pair and 2 Pairs)		pF/m	75	75	75	75	85
Max. Mutual Capacitance @ 1 Khz for IS/OS Cables (Include 1 Pair and 2 Pairs)		pF/m	115	115	115	115	115
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	Armour Wire Diameter	Nominal Outer 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	15	505
5	16/0.2	0.5	0.6	1.2	14.5	1.25	1.6	19.1	830
10	16/0.2	0.5	0.6	1.3	19.3	1.6	1.8	24.8	1420
15	16/0.2	0.5	0.6	1.5	22.6	1.6	1.8	28.8	1570
20	16/0.2	0.5	0.6	1.5	25.7	1.6	1.9	32.1	2040
30	16/0.2	0.5	0.6	1.7	31	2	2.1	37.6	2610
50	16/0.2	0.5	0.6	2.2	39.9	2.5	2.4	47.1	4270
2	24/0.2	0.75	0.6	1.1	12.1	0.9	1.5	16.1	545
5	24/0.2	0.75	0.6	1.2	15.7	1.25	1.6	21.2	1005
10	24/0.2	0.75	0.6	1.3	20.9	1.6	1.7	27.5	1400
15	24/0.2	0.75	0.6	1.5	24.6	1.6	1.9	31	1750
20	24/0.2	0.75	0.6	1.5	27.9	1.6	1.9	34.7	2300
30	24/0.2	0.75	0.6	2	34.4	2	2.2	41.8	2460
50	24/0.2	0.75	0.6	2.2	43.5	2.5	2.5	52.7	4800
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
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

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	Armour Wire Diameter	Nominal Outer Sheath Thickness	Nominal Overall Diameter	Approx. Weight
	no./mm	mm^2	mm	mm	mm	mm	mm	mm	kg/km
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	17.6	800
5	7/0.53	1.5	0.6	1.3	17.7	1.6	1.7	23.2	1290
10	7/0.53	1.5	0.6	1.5	23.9	1.6	1.9	30.3	1990
15	7/0.53	1.5	0.6	1.7	28	2	2	34.6	2590
20	7/0.53	1.5	0.6	1.7	31.7	2	2.1	38.5	3310
30	7/0.53	1.5	0.6	2	38.6	2	2.5	46.2	4380
50	7/0.53	1.5	0.6	2.2	48.9	2	2.7	58.3	6260

Rated Voltage

Standard


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


Reduced Fire Propagation**
NF C32-070-2.2(C1)
IEC60332-3-22/EN50266-2-4

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

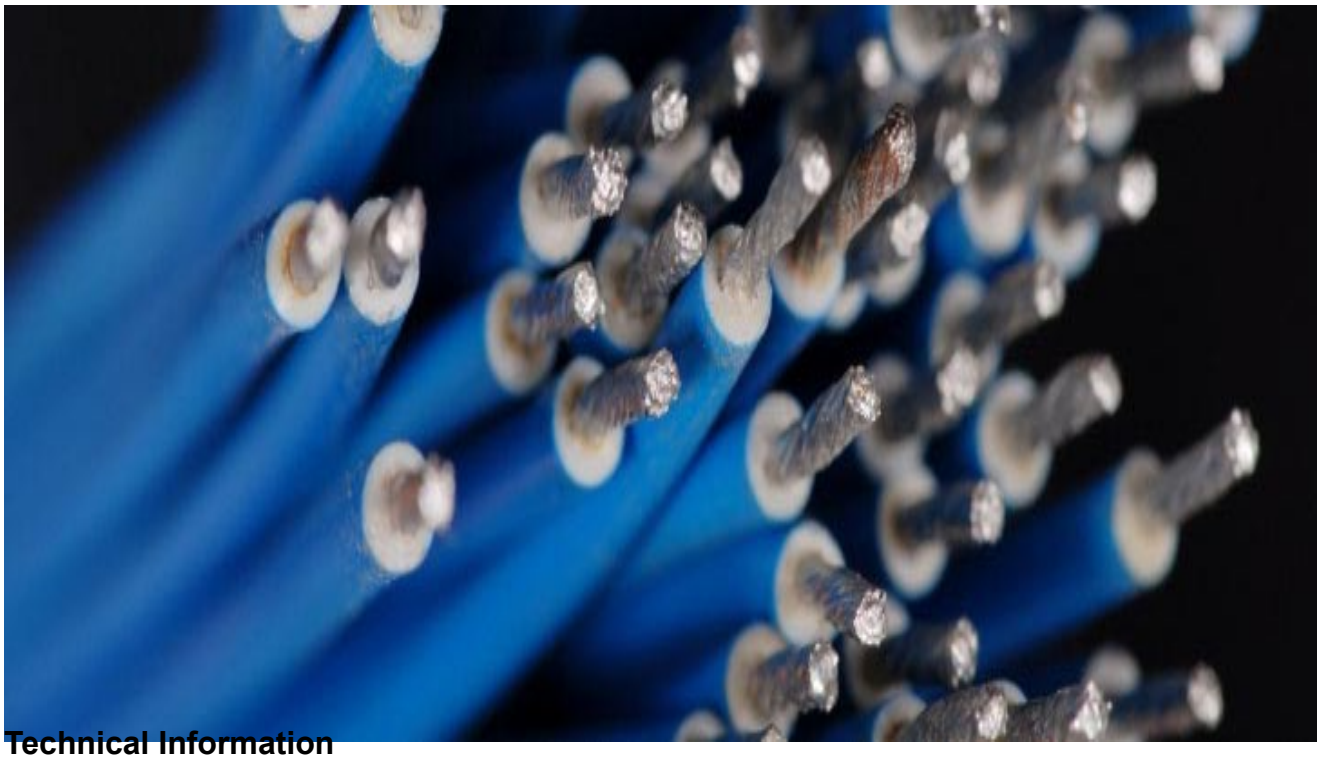
Pair No.	a-wire		b-wire	Pair No.	a-wire		b-wire
1	White		Blue	26	Red	Blue	Blue
2	White		Orange	27	Red	Blue	Orange
3	White		Green	28	Red	Blue	Green
4	White		Brown	29	Red	Blue	Brown
5	White		Grey	30	Red	Blue	Grey
6	Red		Blue	31	Blue	Black	Blue
7	Red		Orange	32	Blue	Black	Orange
8	Red		Green	33	Blue	Black	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

Type Codes For Fire Retardant Instrumentation Cables

RE-2X(St)YSWAY

- Outer Sheath
  Y: PVC
- Armour
  SWA: Steel Wire Armour
- Inner Sheath
  Y: PVC
- Screen
  St: Aluminium/polyester Tape
- Insulation
  2X: XLPE
  2Y: PE
  Y: PVC



FLAME RETARDANCE IN ACCORDANCE WITH DIFFERENT STANDARDS

The following standards specify a method for flame propagation test for single core cables. The single cable sample undergoes the flame action of a bunsen burner. The test only lasts few minutes.

The IEC 60332-1 standards are taken over as EN standards and transferred to national standards Example: IEC 60332-1 becomes EN 60332-1 and introduced in Germany as DIN EN 60332-1.

Flame Retardance in accordance with EN 60332:2004

EN 60332:2004 Tests on electrical and optical cables under fire conditions. The standard applies to single insulated wires (cables) and requires a vertical flame test with a maximum flame climb of 450mm. The test lasts between 1 and 8 minutes, depending on the cable diameter.

EN 60332-1-1:2004 / BS EN 60332-1-1:2004 / IEC 60332-1-1:2004 / DIN EN 60332-1-1:2004 / VDE 0482-1-1:2005-06 Test on electrical and optical cables under fire conditions. Test for a vertical flame propagation fo a single insulated wire or cables.

EN 60332-1-2:2004 / BS EN 60332-1-2:2004 / IEC 60332-1-2:2004 / DIN EN 60332-1-2:2004 / VDE 0482-1-2:2005-06 / CEI 60332-1-2(CEI 20-35/1-2) Tests on electrical and optical fiber cables under fire conditions. Test for a vertical flame propagation for a single insulated wire or cable – Procedure for 1kW premixed flame.

This standard specifies a method of test for resistance to vertical flame propagation for a single insulated wire or cable. Part 1-1 specifies the test apparatus and Part 1-2 specifies the test procedure.

The cable sample is deemed to pass the test if the distance between the lower edge of the top support and the onset of charring is greater than 50mm. In addition, a failure shall be recorded if burning extends downward to a point greater than 540mm from the lower edge of the top support.

EN 60332-1-2:2004 specifies the use of 1kW premix flame and is for general use, except that the procedure may not be suitable for the testing of small insulated conductors or cables of less than 0.5mm sq cross section because the conductor melts before the test is completed, or for the testing of small optic fiber cables because the fiber will be broken before the test is completed. In this case, the procedure given by EN 60332-2-1/2 is recommended.

EN 60332-2-1:2004 / BS EN 60332-2-1:2004 / IEC 60332-2-1:2004 / DIN EN 60332-2-1:2004 / VDE 0482-2-1:2005-06 Tests on electrical and optical cables under fire conditions. Test for a vertical flame propagation for a single small insulated wire or cable.

EN 60332-2-2:2004 / BS EN 60332-2-2:2004 / IEC60332-2-2:2004 / DIN EN 60332-2-2:2004 / VDE 0482-2-2:2005-06 / CEI 60332-2-2 (CEI 20-35/2-2) Test on electric and optical fiber cables under fire conditions. Tests for vertical flame propagation for a single small insulated wire or cable. Procedure for diffusion flame.
This test applies to small dimensions cables.
This standard specifies a method of test for resistance to vertical flame propagation for a single insulated wire or cable. Part 2-1 specifies the test apparatus and Part 2-2 specifies the test

procedure.

Flame Retardance in accordance with NF C32-070-2.1(C2)

NF C32-070:2001 Insulated conductors and cables for installation - Classification tests on conductors and cables with regard to fire behavior.
NF C32-070 2.1 Procedure for 1 kW pre-mixed flame.

The NF F 32070 2.1 (Category C2) and IEC 60332-1-2 are very similar. The sole difference is the time during which the flame is applied.

Flame Retardance in accordance with EN 50265-1:1999 (replaced by EN 60332)

EN 50265-1:1999 / BS EN 50265-1:1999 / DIN EN 50265-1:1999 / VDE 0482-265-1:1999-04– Common test methods for cables under fire conditions. Test for resistance to a vertical flame propagation for a single insulated conductor or cable. Apparatus (Replaced by EN 60332-1-1:2004 and EN 60332-2-1:2004).
EN 50265-2-1:1999 / BS EN 50265-2-1:1999 / DIN EN 50265-2-1:1999 / VDE 0482-265-2-1:1999-04 – Common test methods for cables under fire conditions. Test for resistance to a vertical flame propagation for a single insulated conductor or cable. Part 2-1: Procedure 1kW pre-mixed flame (Replaced by EN 60332-1-2:2004).

EN 50265-2-2:1999 / BS EN 50265-2-2:1999 / DIN EN 50265-2-2:1999 / VDE 0482-265-2-2:1999-04 – Common test methods for cables under fire conditions. Test for resistance to a vertical flame propagation for a single insulated conductor or cable. Part 2-2: Procedure Diffusion flame (Replaced by EN 60332-2-2:2004).

Flame Retardance in accordance with BS 4066 Part 1 & 2 (replaced by EN 60332)

BS 4066-2:1980 (superseded) – Tests on electic cables under fire conditions. Method of test on a single vertical insulated wire or cable.

This standard is no longer in force and is replaced by BS EN 50265-2-1 which was also superseded by BS EN 60332-1:2009.

Flame Retardance in accordance with NBN C 30-004 (cat. F1)

NBN C 32-004 specifies a method of test for measuring the vertical flame propagation characteristics of a single wire or cable. The cable specimen is deemed to have passed the test and categorized as F1 if after burning has ceased, the charred or affected portion does not reach within 50mm of the lower edge of the top clamp which is equivalent to 425mm above the point of flame application.

Flame Retardance in accordance with IEEE 383

In the IEEE 383 test, cables are supported by a one foot wide vertical rack eight feet high. The cables are positioned in the centre six inches of the rack, spaced one-half diameter apart. The rack is centered in an eight foot enclosure. A ten inch ribbon burner ignites the cable with a 21 kW (70000 BTU). The burner is positioned 2 feet above the floor and 9 to 12 inches of cables are exposed to direct flames for 20 minutes. Cables on which flame extends above the top of the 8 foot rack fail the test.

REDUCED FIRE PROPAGATION IN ACCORDANCE WITH DIFFERENT STANDARDS

These standards specify a method for fire propagation test for vertically mounted bunched cables. These tests simulate the chimney effect in vertical installation of bunch of cables. A certain number of cable sections with a length of 3.5 m is fastened to a vertical ladder in an adapted chamber. The amount of combustible materials for cables and duration of flame application depends on the category the cable has to meet.

Resistance of the wires bundle arranged vertically to the spread of the flame should be such that after a certain time and stopping the source of ignition, flame is extinguished by itself and the length of charred fragments will not exceed 2.5 m in height measured above the lower edge of the burner.

Reduced Fire Propagation in accordance with IEC 60332-3

This test is the most common one to verify the behaviour of a cables for the fire propagation. The cables are installed on a bunch of vertical ladder inside a metal cabinet and undergo the action of a ribbon flame at 750°C.The standard is subdivided in several parts that differ one from the other for the quantity of cable to be installed, the installation mode and the flame application time.

EN 60332-3-10:2009 / BS EN 60332-3-10:2009 / IEC 60332-3-10 ed1.1 / DIN EN 60332-3-10:2009 / VDE 0482-332-3-10:2010-08 – Common test methods for cables under fire conditions. Tests on electric and optical fiber cables under fire conditions - Part 3-10: Test for vertical flame spread of vertically mounted bunched wires or cables.

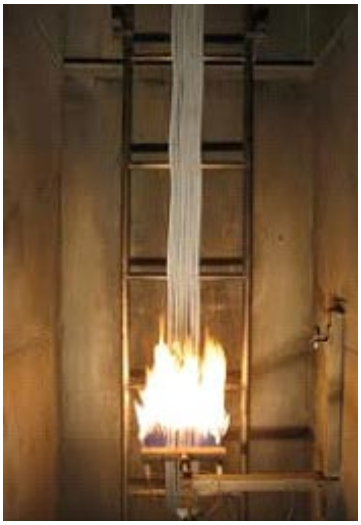
EN 60332-3-21:2009 / BS EN 60332-3-21:2009 / IEC 60332-3-21 ed1.1 / DIN EN 60332-3-21 / VDE 0482-332-3-21:2010-08 / CEI EN 60332-3-21:2009 (CEI 20-22/3-1)– Procedures. Tests on electric and optical fiber cables under fire conditions - Part 3-21: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category A . F/R
-Installation In one layer (front).
-Installation In two layers (front and rear)
-The quantity of the Installed cable is equal to 7 litres/m of combustible materials for cables
-The time of application of the flame is 40 minutes

EN 60332-3-22:2009 / BS EN 60332-3-22:2009 / IEC 60332-3-22 ed1.1 / DIN EN 60332-3-22:2009 /VDE 0482-332-3-22:2010-08 / CEI EN 60332-3-22:2009 (CEI 20-22/3-2)– Procedures. Tests on electric and optical fiber cables under fire conditions - Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cable - Category A

-Installation In one layer (front).
-The quantity of the installed cable is equal to 7 litres/m of combustible materials for cables
-The time of application of the flame is 40 minutes

EN 60332-3-23:2009 / BS EN 60332-3-23:2009 / IEC 60332-3-23 ed1.1 / DIN EN 60332-3-23:2009 / VDE 0482-332-3-23:2010-08 / CEI EN 60332-3-23:2009 (CEI 20-22/3-3)– Procedures. Tests on electric and optical fiber cables under fire conditions - Part 3-23: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category B

-Installation In one layer (front).
-The quantity of the installed cable is equal to 3.5 litres/m of combustible materials for cables
-The time of application of the flame is 40 minutes



EN 60332-3-24:2009 / BS EN 60332-3-24:2009 / IEC 60332-3-24 ed1.1 / DIN EN 60332-3-24:2009 / VDE 0482-332-3-24:2010-08 / CEI EN 60332-3-24:2009 (CEI 20-22/3-4) – Procedures. Tests on electric and optical fiber cables under fire conditions - Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C

-Installation In one layer (front).
-The quantity of the installed cable is equal to 1.5 litres/m of combustible materials for cables
-The time of application of the flame is 20 minutes

EN 60332-3-25:2009 / BS EN 60332-3-25:2009 / IEC 60332-3-25 ed1.1 / DIN EN 60332-3-25: 2009 / VDE 0482-332-3-25:2010-08 / CEI EN 60332-3-25:2009 (CEI 20-22/3-5)– Procedures. Tests on electric and optical fiber cables under fire conditions - Part 3-25: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category D
-Installation In one layer (front).
-The quantity of the installed cable is equal to 0.5 litres/m of combustible materials for cables
-The time of application of the flame is 20 minutes.

Summary of test condition:

IEC	60332-3-21	60332-3-22		60332-3-23		60332-3-24		60332-3-25	
BS EN 50266	50266-2-1	50266-2-2		50266-2-3		50266-2-4		50266-2-5	
CEI	20-22/3-1	20-22/3-2		20-22/3-3		20-22/3-4		20-22/3-5	
Category	AF/R	A		B		C		D	
Conductor cross-sectionsmm^2	＞35	＞35	≤35	＞35	≤35	＞35	≤35	＞35	≤35
NMV(litres per metre of cable)	7	7		3.5		1.5		0.5	
Minimum length of test pieces(m)	3.5	3.5		3.5		3.5		3.5	

Standard ladder (500 mm wide): • number of layers • maximum width of test sample	1front+1rear 300mm	≥1front 300mm	1front 300mm	- -	≥1front 300mm	1front 300mm	≥1front 300mm	1front 300mm	≥1front 300mm
Wide ladder (800 mm wide): • number of layers • maximum width of test sample	- -	- -	- -	1front 600mm	-	-	-	-	-
Positioning of test pieces	Spaced 0.5×Diameter cable (Max.20mm)	Touching	Spaced 0.5×Diameter cable (Max.20mm)		Touching	Spaced 0.5×Diameter cable (Max.20mm)	Touching	Spaced 0.5×Diameter cable (Max.20mm)	Touching
Number of burners	1	1	1	2	1		1		1
Ladder mounting	Front and rear	Front, Wider ladder for larger cables			Front		Front		Front
Flame application time(min)	40	40	40		40		40		40
Test conditions	Wind speed: <8 m/s; Ternperature: 5°C - +40°C								
Extent of the charred portion	≤2.5m above the bottom edge of the burner, neither at the front nor at the rear of the ladder.								

Reduced fire propagation in accordance with NF C32-070-2.2(C1)

NF C32-070 :2001 Insulated conductors and cables for installation.
-Classification tests on conductors and cables with regard to fire behavior.

A 1600mm vertically installed bundled of cable is exposed to the effects of a radiating oven (approx 830°C) and forced ventilation. Pilot flames arranged above the oven burn off the emitted gases. The test duration is 30 minutes, with the ventilation stopped for every 10 minutes during the flame application period. The cable sample is classified under Category C1 according to NF F 32070-2.2 if the carbonised part of the cable sample does not extend more than 0.8m above the upper base of the oven.

Depending on the damaged length, they can be further classified into 4 classes A, B, C and D according to NF F 16-101 as follows:

Category	Test Result
A	No damaged length from top of the oven in upper position.
B	Damaged length from top of oven in upper position not extending more than 50mm.
C	Damaged length from top of oven in upper position not extending more than 300mm
D	Damaged length from top of oven in upper position not extending above the top of the chimney

Reduced Fire Propagation in accordance to EN 50266-1, EN 50266-2-2, EN 50266-2-3, EN 50266-2-4.

EN 50266-1:2001 / BS EN 50266-1:2001 / DIN EN 50266-1:2001 / VDE 0482-266-1:2001-09– Common test methods for cables under fire conditions. Test for vertical flame spread of vertically mounted bunched wires or cables - Part 1: Apparatus (Replaced by EN 60332-3-10:2009)

EN 50266-2-1:2001 / BS EN 50266-2-1:2001 / DIN EN 50266-2-1:2001 / VDE 0482-266-2-1:2001-09 / CEI EN 50266-2-1– Common test methods for cables under fire conditions. Test for vertical flame spread of vertically mounted bunched wires or cables - Part 2-1 : Procedures. Category A F/R (Replaced by EN 60332-3-21:2009)

EN 50266-2-2:2001 / BS EN 50266-2-2:2001 / DIN EN 50266-2-2:2001 / VDE 0482-266-2-2:2001-09 / CEI EN 50266-2-2– Common test methods for cables under fire conditions. Test for vertical flame spread of vertically mounted bunched wires or cables - Part 2-2: Procedures. Category A (Replaced by EN 60332-3-22:2009)

EN 50266-2-3:2001 / BS EN 50266-2-3:2001 / DIN EN 50266-2-3:2001 / VDE 0482-266-2-3:2001-09 / CEI EN 50266-2-1– Common test methods for cables under fire conditions. Test for vertical flame spread of vertically mounted bunched wires or cables - Part 2-3: Procedures. Category B (Replaced by EN 60332-3-23:2009)

EN 50266-2-4:2001 / BS EN 50266-2-4:2001 / DIN EN 50266-2-4:2001 / VDE 0482-266-2-4:2001-09 / CEI EN 50266-2-4:2001 – Common test methods for cables under fire conditions. Test for vertical flame spread of vertically mounted bunched wires or cables - Part 2-4: Procedures. Category C (Replaced by EN 60332-3-24:2009).

Reduced Fire Propagation in accordance with BS 4066-3

BS 4066-3:1994 (superseded) – Tests on electic cables under fire conditions. Tests on bunched wires or cables.
This standard is no longer in force and is replaced by the BS EN 50266-1:2001

Reduced Fire Propagation in accordance with NBN C 32-004 (F2)

NBN C 32-004 specifies a method of test for measuring the vertical flame propagation characteristics of a bunch of cables. The cable specimen is deemed to have passed the test and categorized as F2 if after burning has ceased, the extent of charred or affected portion does not reach a height exceeding 2.5m above the bottom edge of the burner.

HALOGEN CONTENT TEST IN ACCORDANCE WITH DIFFERENT STANDARDS

In the event of a fire, many fumes are produced. This test is concerned with the possibilities of corrosive acid gases being released from halogen containing cables and the damage such cables can cause (to equipments). These standards specify a method for determination of the amount of halogen acid gas, evolved during combustion of compound.

Halogen Content Test in accordance with EN 50267-2-1

EN 50267-2-1:1998 / BS EN 50267-2-1:1999 / DIN EN 50267-2-1:1999 / VDE 0482-267-2-1:1999-04 / CEI EN 50267-2-1:1999 (CEI 20-37/2-1) Common test methods for cables under fire conditions- Test on gases evolved during combustion of materials from cables- Part 2-1: Procedures. Determination of the amount of halogen acid gas.
This part of the standard defines the method to measure the amount of halogen acid evolved and which should be expressed in hydrochloric acid. The amount of halogen acid contained in the test solution is determined by a titration method.
If the cables are described as zero halogen or halogen free, it is recommended that the hydrochoric acid yield should be less than 0.5%.

Halogen Content Test in accordance with IEC 60754-1

IEC 60754-1 ed 2.0 Common test methods for cables under fire conditions. Test on gases evolved during combustion of materials from cables. Part 1: Procedures. Determination of the amount of halogen acid gas.
Basically, this is same as EN 50267-2-1.

Halogen Content Test in accordance with BS 6425-1

BS 6425-1:1990(superseded): Test on gases evolved during the combustion of materials from cables. Method for determination of amount of halogen acid gas evolved during combustion of polmeric materials taken from cables.
This standard is no longer in force and is replaced by the EN 50267-2-1.

ACID GAS EMISSION TEST IN ACCORDANCE WITH DIFFERENT STANDARDS

The following standards specify a method for determination of acidity of gas evolved during combustion of cables by measuring PH and conductivity. This test allows to determine the corrosivity of the acid gases generally halogens, that develop during the electric cable combustion.

Acid Gas Emission Test in accordance with EN 50267-2-2

EN 50267-2-2:1999 / BS EN 50267-2-2:1999 / DIN EN 50267-2-2:1999 / VDE 0482-267-2-2:1999-04 / CEI EN 50267-2-2:1999 (CEI 20-37/2-2). Common test methods for cables under fire conditions- Test on gases evolved during combustion of materials from cables- Part 2-2: Procedures. Determination of degree of acidity of gases for materials by measuring PH and conductivity

The standard states that the pH and the conductivity of a test solution should be measured, using calibrated PH and conductivity meters.

If the cables are described as zero halogen or halogen free, it is recommended that at least both of the following requirements should be met for each of the individual materials of a cable:

-The PH value should not be less than 4.3 when related to 1 litre of water

-The conductivity should not be less than 10us/mm when related to 1 litre of water

EN 50267-2-3:1999 / BS EN 50267-2-3:1999 / DIN EN 50267-2-3:1999 / VDE 0482-267-2-3:1999-04 / CEI EN 50267-2-3:1999 (CEI 20-37/2-3). Common test methods for cables under fire conditions- Test on gases evolved during combustion of materials from cables- Part 2-3:Procedures. Determination of degree of acidity of gases for cables by determination of the weighted average of pH and conductivity.
The standard states that the pH and the conductivity of a test solution should be measured, using calibrated pH and conductivity meters. The results from the different components of the cable are then weighted.

Acid Gas Emission Test in accordance with IEC 60754-2

IEC 60754-2 ed1.0 Test on gases evolved during combustion of electric cables - Part 2 : Determination of degree of acidity of gases evolved during combustion of materials taken from electric cables by measuring pH and conductivity.

Acid Gas Emission Test in accordance with NF C32-074

NF C32-074 Common test methods for cables under fire conditions - Test on gases evolved during combustion of materials from cables. This standard is equivalent to IEC 60754-2

Acid Gas Emission Test in accordance with BS 6425-2

BS 6425-2:1993 (superseded) Test on gases evolved during the combusion of materials from cables.
Determination of degree of acidity (corrosivity) of gases by measuring pH and conductivity.

This standard is no longer in force and is replaced by the EN 50267-2-2:1999.

Acid Gas Emission Test in accordance with DIN VDE 0472-813 / VDE 0472-813:1994

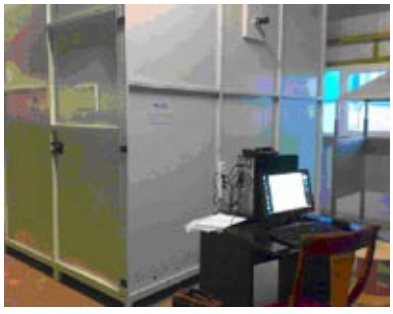
DIN VDE 0472-813 / VDE 0472-813:1994 Corrosivity of combustion gases.

The standards are no longer in force and are replaced by the EN 50267-2-2 & VDE 0482-267-2-2.

SMOKE DENSITY TEST IN ACCORDANCE WITH DIFFERENT STANDARDS

The smoke density measurement taken from a material under fire conditions gives an indication of the visibility through the smoke. This is important as reduced visibility in a real fire situation makes it more difficult to escape from the fire thus increasing the threat to human life from the toxic gas, fumes and heat

The following standards specify the method for measuring the generation of smoke from cables during fire.



Smoke Density Test in accordance with IEC 61034-1 & IEC 61034-2

IEC 61034-1:2005 / EN 61034-1:2005 / BS EN 61034-1:2005 / DIN EN 61034-1:2006 / VDE 0482-1034-1:2006 Measurement of smoke density of cables burning under defined conditions. Part 1: Test apparatus

IEC 61034-2:2005 / EN 61034-2:2005 / BS EN 61034-2:2005 / DIN EN 61034-2:2006 / VDE 0482-1034-2:2006 / CEI EN 61034-2:2006 (CEI 20-37/3-1) Measurement of smoke density of cables burning under defined conditions.
Part 2: Test procedure and requirements.
The standard specifies a method of measurement of smoke density of cables. Part 1 specifies the test apparatus and Part 2 specifies the test procedure.

The test is usually performed inside a chamber of 3m x3m x3m and the test is sometimes described as 3 metre cube test. The test is performed by monitoring the tranmittance reduction of a white light beam, running from one side of the chamber to the other, at a set height, thus monitoring the build up of smoke inside the chamber. The minimum percentage of light transmittance is often used to determine if the cable has passed or failed the test , often a minimum light transmittance of 60% is applied in order to classify a cable as low smoke.

Smoke Density Test in accordance with NF C32- 073

NF C32 073 Common test methods for cables under fire conditions.
- Measurement of smoke density of cables burning under defined conditions.
This standard is equivalent to IEC 61034-2

Smoke Density Test in accordance with BS 7622-1 & BS 7622-2

BS 7622-1:1993 (superseded) – Measurement of smoke density of electric cables burning under defined condiitions. Test apparatus.
BS 7622-2:1993 (superseded) – Measurement of smoke density of electric cables burning under defined condiitions. Test procedure and requirements.

The standards are no longer in force and were replaced by the EN 50268-1:2000 and EN 50268-2:2000 even though they too were superseded by EN 61034-1:2005 and EN 61034-2:2005.

Smoke Density Test in accordance with EN 50268-1 & EN 50268-2

EN 50268-1:2000 / BS EN 50268-1:2000 / DIN EN 50268-1:2000 / VDE 0482-268-1:2000 (superseded) – Common test methods for cables under fire conditions. Measurement of smoke density of cable burning under defined conditions. Part 1: Apparatus
EN 50268-2:2000 / BS EN 50268-2:2000 / DIN EN 50268-2:2000 / VDE 0482-268-2:2000 (superseded) – Common test methods for cables under fire conditions. Measurement of smoke density of cable burning under defined conditions. Part 2: Procedure.
The standards are no longer in force and are replaced by the EN 61034-1:2005 and EN 61034-2:2005. Although these standards have been withdrawn, they are still called upon in some specification documents such as in the London Underground specification 1-085.

Smoke Density Test In Accordance with DIN VDE 0472-816 / VDE 0472-816:1994

DIN VDE 0472-816/VDE 0472-816:1994 Testing of cables, wires and flexible cords. Smoke Density.

The standards are no longer in force and are replaced by the EN 50268-1, VDE 0482-268-1, EN 50268-2 & VDE 0482-268-2 which are also replaced by the EN 61034-1:2005 and EN 61034-2:2005.

OXYGEN INDEX TEST IN ACCORDANCE WITH DIFFERENT STANDARDS

The oxygen index is defined as the minimum concentration of oxygen, expressed as volume percentage, in a mixture of oxygen and nitrogen that will just support combustion of a material initially at room temperature under specified test conditions.

Oxygen Index Test in accordance with ASTM D 2863

ASTM D 2863-10 Measuring the minimum oxygen concentration to support candle-like combustion of plastics (Oxygen Index).

The test is performed in accordance with the procedure specified in ASTM 2863-95 using test piece cut from the outer sheath of the cable. The apparatus holds a small specimen which is clamped vertically in a tube in an atmosphere where the relative concentration of oxygen and nitrogen can be changed. The aim is to test the flammability of the sample with a small pilot flame to find the minimum oxygen concentration required to just sustain combustion of the sample.

Oxygen Index Test in accordance with ISO 4589-2

ISO4589-2:1996 Determination of burning behaviour by oxygen index Part 2: Ambient temperature test.
Specimens measuring 100mm long by 6mm wide are used for testing. The test is performed in accordance with the procedure specified in the standard.

TEMPERATURE INDEX TEST IN ACCORDANCE WITH DIFFERENT STANDARDS

This is a test for assessing the performance of a material when it is tested in accordance with BS2782: Part 1: Method 143a and 143b. The oxygen index of a material will drop when the temperature rises. When the temperature rises and the oxygen index drops to 21%, the material will burn automatically. This temperature is defined as temperature index. For example, the oxygen index of the coal at room temperature is 50% and when the temperature climbs to 150°C, it's oxygen index drops to 21°C and the coal will burn by itself automatically. The temperature index of the coal is defined as 150°C. In general, the temperature index of fire retardant cable exceeds 250°C.

Temperature Index Test in accordance with BS 2782

BS 2782: Part 1:1989 Method 143a and 143b Temperature of materials. Determination of flammability.
Specimens measuring nominally 100mm long by 6.5mm wide by 3mm thick are used for testing. The specimens are then tested in accordance with the test procedure specified in the standard.

Temperature Index Test in accordance with ISO 4589-3

ISO4589-3:1996 Determination of burning behaviour by oxygen index Part 3: Elevated temperature test.
Specimens measuring 100mm long by 6mm wide are used for testing. The test is performed in

accordance with the procedure specified in the standard.

TOXICITY TEST IN ACCORDANCE WITH DIFFERENT STANDARDS

Toxicity test in accordance with NES 02-713

Measuring a fume from a material exposed to a controlled fire conditions gives an indication of the fumes which may be produced in a real fire situation. A standard method of test for determining the toxicity of materials under fire condition is Defense Standard NES 02-713- Toxicity. This method gives the level of toxicity of the fumes produced from the material under test. During the test, the test specimen is heated via direct flame application at 1150°C.

The flame is applied via a bunsen burner with a flame height of between 100m and 125mm formed with a methane gas and an external supply of compressed air. The specimen toxicity is determined from accurate pre-analysis weight (4pp) colorimetric tubes and ion chromatography.

The test may determine the following species: Hydrogen Bromide, Hydrochloric Acid, Hydrogen Fluoride, Formaldehyde, Nitrous gases, Carbon Monoxide, Carbon Dioxide, Acrylonitrile, Phenol,
Hydrogen Sulphide, Sulphur Dioxide, Hydrocyanic Acid, Ammonia. The concentration in ppm for each gas detected are provided. The toxicity index of the speciments summates the toxic gases, taking into account of their level of danger to humans. The smaller the toxicity index, the better the product. A limit of 5 is often applicable.

Toxicity test in accordance with NF C 20-454

NF C 20-454 base environmental testing procedures. Fire behaviour. Analysis and titration of gases evolved during pyrolysis or combustion of materials used in electrotechnics. Exposure to abnormal heat or fire. Tube furnace method.

The test defined by this standard serves to define the conventional toxicity index (cti) of the gases emitted by the insulating or sleeving materials during combustion at 800°C.

Toxicity test in accordance with NF X 70-100

NF X 70-100 Fire Tests; Analysis of gaseous effluents.
The test is conducted within a tube furnace where the temperature is set at either 400°C, 600°C, 800°C (commonly 600°C is used for most of the materials or 800°C for some electrical products) for 40 minutes throughout the test by analysis of the toxicity index of the gases including CO, CO_2, HCL, HBr, HCN, HF and SO_2.

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