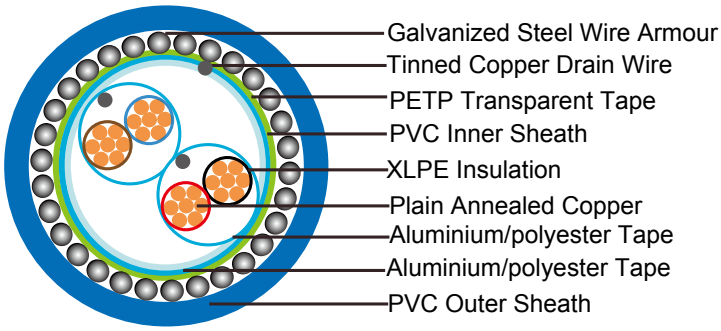
Flame Retardant Individual and Overall Screened, Armoured Instrumentation Cables (Multipair)

RE-2X(St)YSWAY PiMF



APPLICATION

The armoured XLPE versions are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services.

STANDARDS

Basic design to BS EN 50288-7 (formerly BS 5308)

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)	BS EN 60332-1-2

VOLTAGE RATING

300V, 500V

CABLE CONSTRUCTION

Conductor: Plain or metal coated copper wire, solid, stranded or flexible according to IEC 60228 class 1, 2 and 5.

Insulation: Extruded XLPE compound according to EN 50290-2-29. PVC, PE, PP compound can be offered as options.

Pairs: Two insulated conductors uniformly twisted together with a lay not exceeding 100mm (≤1.5mm^2) or 150mm (for 2.5mm^2).

Individual Screen: Aluminium/polyester tape is applied over the laid up pairs with 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 with metallic side down in contact with tinned copper drain wire, 0.5mm². Copper braid screen or aluminium/polyester tape combined with copper braid screen can be offered as option.

Inner Sheath: Thermoplastic PVC compound according to EN 50290-2-22.

Amouring: Galvanized steel wire armour.
Outer Sheath: Thermoplastic PVC compound according to EN 50290-2-22.
Outer Sheath Option: 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: Colours and/or additional ring markings and/or symbols achieved by the use of coloured insulation or by a coloured surface using extrusion, printing or painting.
Outer Sheath: Black. Other colours can be offered upon request.

PHYSICAL AND THERMAL PROPERTIES

Temperature range during operation: -30°C - +90°C
Temperature range during installation: -5°C - +50°C
Maximum short circuit temperature (5 Seconds): 250°C
Minimum bending radius: 10 x Overall Diameter

ELECTRICAL PROPERTIES

300V

Conductor Area Size		mm^2	0.5	0.75	1.0	1.5
Insulation Thickness (Nominal)		mm	0.4	0.4	0.4	0.5
Insulation Thickness (Minimum)		mm	0.26	0.26	0.26	0.35
Conductor Resistance (20°C)		ohm/km	36.7	25.0	18.5	12.3
Minimum Insulation Resistance (20°C)		Mohm/km	1000			
Maximum Mutual Capacitance		nf/km	250			
Capacitance Unbalance		pf/500m	500			
Maximum L/R (Ratio)		μH/Ω	25	25	25	40
Operating Voltage		V	300			
Dielectric Strength for 1 Minute	AC	V	≥1000			
	DC	V	≥2000			

500V

Conductor Area Size	mm^2	0.5	0.75	1.0	1.5	2.5
Insulation Thickness (Nominal)	mm	0.6	0.6	0.6	0.6	0.7
Insulation Thickness (Minimum)	mm	0.44	0.44	0.44	0.44	0.53
Conductor Resistance (20°C)	ohm/km	36.7	25.0	18.5	12.3	7.4
Minimum Insulation Resistance (20°C)	Mohm/km	1000				
Maximum Mutual Capacitance	nf/km	250				

Capacitance Unbalance		pf/500m	500					
Maximum L/R (Ratio)		μH/Ω	25	25	25	40	60	
Operating Voltage		V	500					
Dielectric Strength for 1	AC	V	≥2000					
Minute	DC	V	≥3000					

CONSTRUCTION PARAMETERS

300V

Conductor		RE-2X(St)YSWAY PiMF					
No. of Pairs X Cross Section	Class of Conductor	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Nominal Armour Wire Diameter	Nominal Outer Sheath Thickness	Approx. Overall Diameter	Approx. Weight
mm^2		mm	mm	mm	mm	mm	kg/km
0.5mm^2							
2x2x0.5	2	0.4	1.0	0.9	1.4	13.2	330
3x2x0.5	2	0.4	1.0	0.9	1.4	13.6	365
4x2x0.5	2	0.4	1.1	0.9	1.5	14.9	428
5x2x0.5	2	0.4	1.1	0.9	1.5	15.8	478
8x2x0.5	2	0.4	1.1	0.9	1.5	17.7	601
10x2x0.5	2	0.4	1.2	1.25	1.6	21.0	861
12x2x0.5	2	0.4	1.2	1.25	1.6	21.5	921
16x2x0.5	2	0.4	1.3	1.25	1.7	23.6	1100
20x2x0.5	2	0.4	1.4	1.25	1.7	25.3	1258
24x2x0.5	2	0.4	1.5	1.25	1.8	28.4	1483
0.75mm^2							
2x2x0.75	2	0.4	1.0	0.9	1.4	13.8	361
3x2x0.75	2	0.4	1.1	0.9	1.5	14.7	421
4x2x0.75	2	0.4	1.1	0.9	1.5	15.6	476
5x2x0.75	2	0.4	1.2	0.9	1.5	16.8	546
8x2x0.75	2	0.4	1.2	0.9	1.6	19.1	702
10x2x0.75	2	0.4	1.3	1.25	1.6	22.5	985
12x2x0.75	2	0.4	1.3	1.25	1.6	23.2	1070
16x2x0.75	2	0.4	1.4	1.25	1.7	25.3	1271
20x2x0.75	2	0.4	1.5	1.25	1.8	27.3	1472
24x2x0.75	2	0.4	1.5	1.25	1.8	30.3	1704
1.0mm^2							
2x2x1.0	2	0.4	1.0	0.9	1.4	14.5	400
3x2x1.0	2	0.4	1.1	0.9	1.5	15.5	470
4x2x1.0	2	0.4	1.2	0.9	1.5	16.8	548
5x2x1.0	2	0.4	1.2	0.9	1.6	18.1	626
8x2x1.0	2	0.4	1.2	1.25	1.6	21.1	931
10x2x1.0	2	0.4	1.3	1.25	1.7	24.2	1135
12x2x1.0	2	0.4	1.4	1.25	1.7	25.0	1244
16x2x1.0	2	0.4	1.5	1.25	1.8	27.5	1499
20x2x1.0	2	0.4	1.5	1.25	1.8	29.3	1710
24x2x1.0	2	0.4	1.6	1.6	1.9	33.6	2234

Conductor		RE-2X(St)YSWAY PiMF					
No. of Pairs X Cross Section	Class of Conductor	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Nominal Armour Wire Diameter	Nominal Outer Sheath Thickness	Approx. Overall Diameter	Approx. Weight
mm^2		mm	mm	mm	mm	mm	kg/km
1.5mm^2							
2x2x1.5	2	0.5	1.1	0.9	1.5	16.6	499
3x2x1.5	2	0.5	1.2	0.9	1.6	17.7	590
4x2x1.5	2	0.5	1.2	0.9	1.6	19.0	678
5x2x1.5	2	0.5	1.3	1.25	1.6	21.2	910
8x2x1.5	2	0.5	1.3	1.25	1.7	24.2	1181
10x2x1.5	2	0.5	1.4	1.25	1.8	27.9	1444
12x2x1.5	2	0.5	1.5	1.25	1.8	28.9	1589
16x2x1.5	2	0.5	1.6	1.6	1.9	32.5	2128
20x2x1.5	2	0.5	1.7	1.6	2.0	35.1	2468
24x2x1.5	2	0.5	1.8	1.6	2.0	39.3	2642

500V

Conductor		RE-2X(St)YSWAY PiMF					
No. of Pairs X Cross Section	Class of Conductor	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Nominal Armour Wire Diameter	Nominal Outer Sheath Thickness	Approx. Overall Diameter	Approx. Weight
mm^2		mm	mm	mm	mm	mm	kg/km
0.5mm^2							
2x2x0.5	2	0.6	1.0	0.9	1.4	14.6	381
3x2x0.5	2	0.6	1.1	0.9	1.5	15.6	441
4x2x0.5	2	0.6	1.1	0.9	1.5	16.6	498
5x2x0.5	2	0.6	1.2	0.9	1.6	18.1	578
8x2x0.5	2	0.6	1.2	1.25	1.6	21.1	853
10x2x0.5	2	0.6	1.3	1.25	1.7	24.3	1038
12x2x0.5	2	0.6	1.4	1.25	1.7	25.1	1127
16x2x0.5	2	0.6	1.5	1.25	1.8	27.6	1343
20x2x0.5	2	0.6	1.5	1.25	1.8	29.4	1515
24x2x0.5	2	0.6	1.6	1.6	1.9	33.7	1999
0.75mm^2							
2x2x0.75	2	0.6	1.1	0.9	1.5	15.6	431
3x2x0.75	2	0.6	1.1	0.9	1.5	16.3	482
4x2x0.75	2	0.6	1.2	0.9	1.6	17.8	567
5x2x0.75	2	0.6	1.2	0.9	1.6	19.0	637
8x2x0.75	2	0.6	1.3	1.25	1.6	22.4	959
10x2x0.75	2	0.6	1.4	1.25	1.7	25.7	1168
12x2x0.75	2	0.6	1.4	1.25	1.7	26.4	1255
16x2x0.75	2	0.6	1.5	1.25	1.8	29.1	1504
20x2x0.75	2	0.6	1.6	1.6	1.9	32.1	1940
24x2x0.75	2	0.6	1.7	1.6	2.0	36.1	2281
1.0mm^2							
2x2x1.0	2	0.6	1.1	0.9	1.5	16.4	471
3x2x1.0	2	0.6	1.2	0.9	1.5	17.3	543

EES CABLE

LIGHT UP THE WORLD

Conductor		RE-2X(St)YSWAY PiMF					
No. of Pairs X Cross Section	Class of Conductor	Nominal Insulation Thickness	Nominal Inner Sheath Thickness	Nominal Armour Wire Diameter	Nominal Outer Sheath Thickness	Approx. Overall Diameter	Approx. Weight
mm^2		mm	mm	mm	mm	mm	kg/km
4x2x1.0	2	0.6	1.2	0.9	1.6	18.7	629
5x2x1.0	2	0.6	1.3	1.25	1.6	20.9	847
8x2x1.0	2	0.6	1.3	1.25	1.7	23.8	1085
10x2x1.0	2	0.6	1.4	1.25	1.7	27.2	1312
12x2x1.0	2	0.6	1.5	1.25	1.8	28.3	1449
16x2x1.0	2	0.6	1.6	1.6	1.9	32.0	1941
20x2x1.0	2	0.6	1.7	1.6	1.9	34.2	2222
24x2x1.0	2	0.6	1.8	1.6	2.0	38.5	2617
$1.5mm^2$							
2x2x1.5	2	0.6	1.1	0.9	1.5	17.3	526
3x2x1.5	2	0.6	1.2	0.9	1.6	18.5	622
4x2x1.5	2	0.6	1.3	0.9	1.6	20.0	729
5x2x1.5	2	0.6	1.3	1.25	1.7	22.4	971
8x2x1.5	2	0.6	1.4	1.25	1.7	25.6	1265
10x2x1.5	2	0.6	1.5	1.25	1.8	29.6	1546
12x2x1.5	2	0.6	1.6	1.25	1.9	30.7	1714
16x2x1.5	2	0.6	1.7	1.6	2.0	34.6	2289
20x2x1.5	2	0.6	1.8	1.6	2.0	37.1	2634
24x2x1.5	2	0.6	1.9	1.6	2.1	41.8	3105
$2.5mm^2$							
2x2x2.5	2	0.7	1.2	0.9	1.6	19.9	670
3x2x2.5	2	0.7	1.3	1.25	1.0	21.8	921
4x2x2.5	2	0.7	1.4	1.25	1.7	23.8	1089
5x2x2.5	2	0.7	1.5	1.25	1.8	26.0	1268
8x2x2.5	2	0.7	1.6	1.25	1.8	29.9	1673
10x2x2.5	2	0.7	1.7	1.6	2.0	35.5	2288
12x2x2.5	2	0.7	1.8	1.6	2.0	36.6	2512
16x2x2.5	2	0.7	1.9	1.6	2.1	40.4	3036
20x2x2.5	2	0.7	2.1	1.6	2.2	43.8	3564
24x2x2.5	2	0.7	2.2	1.6	2.4	49.6	4231