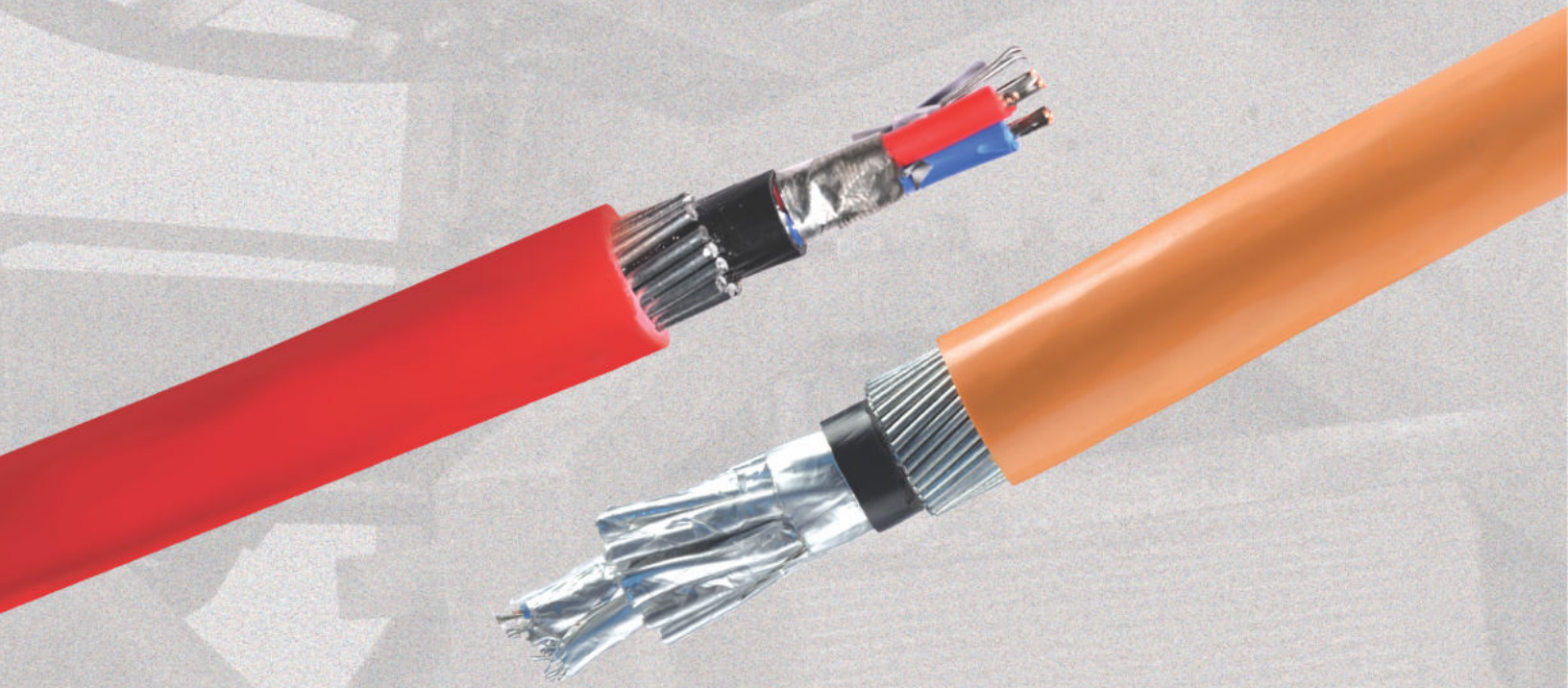
INSUCON

INSTRUMENTATION CABLES



INSUCON *CABLES AND CONDUCTORS PRIVATE LIMITED*

INTRODUCTION

Founded in 1995 in the vibrant capital of Rajasthan, Jaipur, **INSUCON** Cables and Conductors Private Limited has established itself as a trusted leader in the manufacturing of LT XLPE Power and Control Cables. With three decades of industry experience, **INSUCON** has consistently prioritized customer satisfaction and product quality, setting the foundation for its long-standing success.

From the outset, **INSUCON's** commitment to excellence has been unwavering. The company is ISO 9001:2015, ISO 14001:2015 and ISO 45001:2015 certified, reflecting its adherence to international standards in quality management, environmental responsibility, and occupational health and safety. Furthermore, **INSUCON** boasts an in-house NABL testing laboratory, ensuring that every product meets stringent quality checks and performance standards.

INSUCON's dedication to improving its infrastructure and technological capabilities allows it to meet the evolving demands of its customers. By adopting cutting-edge manufacturing techniques and utilizing high-quality raw materials, **INSUCON** delivers reliable and durable cables that meet both national and international standards.

At the heart of **INSUCON's** operations is a team of dedicated and highly experienced professionals. Their expertise and commitment to quality assurance play a crucial role in the company's ability to deliver products that exceed customer expectations. This skilled workforce is the backbone of **INSUCON**, enabling the company to tackle challenges head-on and innovate in a competitive market.

INSUCON's range of LT XLPE Power and Control Cables, LT PVC Power and Control Cable, Instrumentation Cable, Flexible Cable, Aerial Bunched Cable, Fire Survival Cable etc. is designed to meet diverse applications across various sectors, including power distribution, infrastructure, and industrial applications. These cables are engineered for optimal performance, offering excellent electrical insulation properties, resistance to environmental factors, and enhanced safety features. This makes **INSUCON** a preferred choice for customers seeking reliability and efficiency in their electrical solutions.

As **INSUCON** Cables and Conductors Private Limited continues to grow, the company remains steadfast in its mission: to deliver quality products while ensuring customer satisfaction. With a solid foundation built on trust, innovation, and expertise, **INSUCON** is poised to lead the cable manufacturing industry well into the future. Whether you are an individual consumer or a large corporation, **INSUCON** is committed to providing you with the best in power and control cables, tailored to your specific needs.

INTRODUCTION : INSTRUMENTATION CABLES

"INSUCON" offers wide range of Instrumentation Cables that are specialized types of cables designed to transmit signals and power in control and monitoring systems within industrial and commercial applications. These cables play a critical role in various sectors, including Oil and Gas, Manufacturing, Pharmaceuticals and Utilities, where precise control and data acquisition are essential.

Instrumentation Cables are engineered to handle low-voltage signals, ensuring reliable communication between instruments, sensors, and control devices. They are often shielded to minimize electromagnetic interference (EMI) and ensure signal integrity, which is crucial in environments with high levels of electrical noise.

Key characteristics of instrumentation cables include their flexibility, durability, and resistance to environmental factors such as temperature extremes, moisture, and chemicals. This makes them suitable for both indoor and outdoor installations, including harsh industrial settings.

Instrumentation Cables come in various configurations, including multi-pair or multi-core designs and can include features such as twisted pairs, braided shields, or foamed polyethylene insulation to enhance performance. The selection of an appropriate instrumentation cable is essential for maintaining the accuracy and efficiency of control systems, ensuring optimal operational performance and safety.

In summary, **INSUCON** offers wide range of Instrumentation Cables with various combinations. **INSUCON** offers Solid/Stranded/Flexible Plain or Tinned Copper Conductor, XLPE/PVC Insulated, Individual and / or Overall Screened / Braided Pair, Triad, Quad with PVC Inner Sheathed, Unarmoured/Armoured with Wire/Flat Strip or Braided, PVC Outer Sheathed with or without FR/FRLS/LSZH properties as per National and International Standards.

CONSTRUCTION OF INSTRUMENTATION CABLES

CONSTRUCTION		Cores / Pairs / Triads / Quads
RANGE		0.5 / 0.75 / 1.0 / 1.5 / 2.5 Sq.mm with upto 61 Cores / Pairs / Triads / Quads (Higher sizes are also available on Customer requirements)
VOLTAGE GRADE		Upto 1100 Volts
CONDUCTOR		Annealed Plain / Tinned high conductivity electrolytic grade Solid / Stranded Flexible Copper Conductors of Class 1, 2 or 5 as per BS EN 60228, IS:8130& relevant specification
INSULATION		PVC (General Purpose / Heat Resistant / LSZH)/ XLPE as per BS EN 50290-2-21, 23, 26 & 29, IS:5831 and other relevant specification
IDENTIFICATION		For Cores – by coloured insulation or by Number Printing, For Pair / Triad / Quad – by colour insulation / Number Printing or by numbered polyester tape
TWISTING		Insulated cores shall be twisted to form Pair / Triad / Quad with different lay to minimize the cross talk
SCREENING		Individual and / or overall with options like: Aluminium Mylar / Copper Tape with ATC drain wire or Braided with Bare or Tinned Copper or Combination of the above Two
LAYING		Core / Pair / Triad / Quad are assembled in concentric or unit formation with suitable lay length
RIP CORD		As per customer requirements Rip Cord is provided for easy removal of sheath
INNERSHEATH		PVC ST-1 / ST-2 with or without FR / FRLSH / LSZH properties as per BS EN 50290-2-22 & 27, IS:5831 and other relevant specification
ARMOURING		Galvanised Steel Wire / Flat Strip or Wire Braiding as per BS EN 10257-1, IS:3975 and other relevant specification
OUTER SHEATH		PVC ST-1 / ST-2 with or without FR / FRLSH / LSZH properties as per BS EN 50290-2-22 & 27, IS:5831 and other relevant specification

INSUCON

Advantages of Instrumentation Cables

Instrumentation cables are specially designed to transmit low-power electrical signals with high precision and minimal interference, making them ideal for monitoring, control, and communication in various industrial processes. Here are the key advantages of instrumentation cables:

1. Signal Integrity and Accuracy

- **Low Signal Loss**: These cables are engineered to ensure minimal signal attenuation, preserving the accuracy and quality of the transmitted signals over long distances.
- **Noise and Interference Resistance**: With shielding (like copper braiding or aluminum foil), instrumentation cables effectively protect signals from external electromagnetic interference (EMI) and radio frequency interference (RFI), ensuring clean and accurate signal transmission.

2. Flexible Design

- **Multiple Pair Configurations**: Instrumentation cables are available in multi-pair configurations, allowing them to carry multiple signals within a single cable. This reduces installation complexity and saves space in confined environments.
- **Flexibility**: These cables are designed to be flexible, making them easier to install in tight spaces and around equipment.

3. Durability and Longevity

- **Chemical Resistance**: Instrumentation cables are often made with outer sheaths that are resistant to chemicals, oils, and solvents, making them ideal for use in harsh industrial environments.
- **Mechanical Protection**: Some cables come with armored or ruggedized designs to protect against physical damage such as abrasion, crushing, and impact, ensuring long-lasting performance in demanding conditions.
- **Temperature Resistance**: They are designed to operate in a wide range of temperatures, ensuring reliable performance even in extreme heat or cold environments.

4. Versatility in Applications

- **Broad Range of Uses**: Instrumentation cables are used across various industries, including oil and gas, petrochemicals, power plants, manufacturing, and telecommunications. They are ideal for connecting sensors, transmitters, and control systems to ensure the smooth operation of industrial processes.
- **Supports Data, Control, and Communication**: These cables can carry analog or digital signals, making them suitable for different types of instrumentation systems, from simple monitoring to complex data communications.

5. Cost-Effective

- **Reduces Cabling Costs**: Multi-pair instrumentation cables reduce the need for running multiple individual cables for different signals, which lowers material and labor costs during installation.
- **Lower Maintenance**: Due to their durability and resistance to external elements, instrumentation cables require less frequent maintenance and replacement, saving costs over time.

6. Fire-Resistant and Safe

- **Low Smoke and Halogen-Free**: Many instrumentation cables are designed with low-smoke zero-halogen (LSZH) materials, which reduce toxic emissions in the event of a fire, making them safer for use in environments where personnel safety is critical.
- **Fire Survival Options**: Some types of instrumentation cables are also available in fire-resistant versions, ensuring that signal transmission continues even during a fire, which is crucial in safety-critical systems.

7. Customizable to Specific Needs

- **Tailored for Specific Environments**: Instrumentation cables can be customized to meet the requirements of specific industries or environments. For instance, they can be designed to withstand specific environmental challenges such as moisture, corrosion, or high mechanical stress.
- **Multiple Shielding Options**: Depending on the application, different shielding types (e.g., foil, braid, or combination) can be used to further enhance noise immunity and signal integrity.

8. Compliance with Industry Standards

- **Meets Regulatory Standards**: Instrumentation cables are manufactured to comply with various international standards, such as IEC, BS, and UL, ensuring they meet safety, performance, and reliability criteria for industrial applications.

Summary of Advantages:

- **High signal accuracy** and low interference.
- **Flexible designs** for ease of installation.
- **Safe** with fire-resistant, low-smoke options.
- **Customizable** for specific industrial applications.
- **Durable** and resistant to harsh environmental conditions.
- **Cost-effective** with reduced cabling needs.
- **Versatile** for data, control, and communication across industries.

These advantages make instrumentation cables essential for reliable and precise signal transmission in industrial settings, contributing to the smooth and safe operation of critical systems.

Stranded Copper Conductor, PE / PVC Insulated, **Cores** Laid Up, Aluminium Mylar tape **Overall Screened,** Armoured / Un-Armoured Instrumentation cable of Size **0.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Core	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	10.0	200	205	1.8	8.0	85	95
3	0.44	0.3	0.9	1.24	10.5	215	220	1.8	8.5	90	100
4	0.44	0.3	0.9	1.24	11.0	240	245	1.8	9.0	105	115
5	0.44	0.3	0.9	1.24	11.5	265	275	1.8	9.5	120	135
6	0.44	0.3	0.9	1.24	12.5	290	305	1.8	10.5	135	155
7	0.44	0.3	0.9	1.24	13.0	295	310	1.8	11.0	140	160
8	0.44	0.3	0.9	1.24	13.5	330	345	1.8	11.5	155	175
10	0.44	0.3	0.9	1.24	14.5	375	395	1.8	12.5	180	210
12	0.44	0.3	0.9	1.24	15.0	400	420	1.8	13.0	200	230
16	0.44	0.3	0.9	1.24	16.0	470	500	1.8	14.0	245	285
18	0.44	0.3	0.9	1.24	17.0	500	535	1.8	14.5	265	310
19	0.44	0.3	0.9	1.24	17.5	505	540	1.8	15.0	270	315
20	0.44	0.3	0.9	1.24	18.0	530	565	1.8	15.5	280	330
24	0.44	0.3	4 X 0.8	1.4	19.0	645	690	1.8	17.0	325	385
30	0.44	0.3	4 X 0.8	1.4	20.0	705	755	1.8	18.0	375	450
37	0.44	0.3	4 X 0.8	1.4	21.5	795	860	2.0	19.5	460	550

Stranded Copper Conductor, PE / PVC Insulated, **Cores** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.75 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Core	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	10.5	220	225	1.8	8.5	97	105
3	0.44	0.3	0.9	1.24	11.0	230	240	1.8	9.0	105	110
4	0.44	0.3	0.9	1.24	11.5	265	275	1.8	9.5	120	125
5	0.44	0.3	0.9	1.24	12.5	295	305	1.8	10.5	140	150
6	0.44	0.3	0.9	1.24	13.0	330	340	1.8	11.0	160	170
7	0.44	0.3	0.9	1.24	13.5	335	345	1.8	11.5	165	175
8	0.44	0.3	0.9	1.24	14.0	370	385	1.8	12.0	185	200
10	0.44	0.3	0.9	1.24	15.5	430	450	1.8	13.5	215	235
12	0.44	0.3	0.9	1.24	16.0	460	485	1.8	14.0	240	265
16	0.44	0.3	0.9	1.24	17.0	540	575	1.8	15.0	295	330
18	0.44	0.3	4 X 0.8	1.4	18.0	620	660	1.8	16.0	325	360
19	0.44	0.3	4 X 0.8	1.4	18.5	625	665	1.8	16.5	330	370
20	0.44	0.3	4 X 0.8	1.4	19.0	645	690	1.8	17.0	350	385
24	0.44	0.3	4 X 0.8	1.4	20.5	730	780	1.8	18.5	405	450
30	0.44	0.3	4 X 0.8	1.4	21.5	830	890	2.0	19.5	490	550
37	0.44	0.3	4 X 0.8	1.4	23.0	945	1020	2.0	21.0	575	650

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor , PE / PVC Insulated, **Cores** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.0 Sq.mm , 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Core	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	11.0	235	240	1.8	9.0	105	115
3	0.44	0.3	0.9	1.24	11.5	255	260	1.8	9.5	115	125
4	0.44	0.3	0.9	1.24	12.0	285	295	1.8	10.0	135	150
5	0.44	0.3	0.9	1.24	12.5	320	330	1.8	11.0	155	175
6	0.44	0.3	0.9	1.24	13.5	360	370	1.8	11.5	180	200
7	0.44	0.3	0.9	1.24	14.0	365	380	1.8	12.0	185	210
8	0.44	0.3	0.9	1.24	14.5	405	425	1.8	13.0	210	235
10	0.44	0.3	0.9	1.24	16.0	470	495	1.8	14.5	245	280
12	0.44	0.3	0.9	1.24	16.5	505	535	1.8	15.0	275	315
16	0.44	0.3	0.9	1.4	18.0	605	640	1.8	16.0	340	395
18	0.44	0.3	4 X 0.8	1.4	19.0	675	715	1.8	17.0	375	435
19	0.44	0.3	4 X 0.8	1.4	19.5	680	725	1.8	17.5	380	445
20	0.44	0.3	4 X 0.8	1.4	20.0	730	775	1.8	18.0	400	470
24	0.44	0.3	4 X 0.8	1.4	21.5	825	880	2.0	20.0	485	565
30	0.44	0.3	4 X 0.8	1.4	22.5	940	1010	2.0	21.0	570	670
37	0.44	0.3	4 X 0.8	1.4	24.0	1070	1160	2.0	22.5	670	795

Stranded Copper Conductor , PE / PVC Insulated, **Cores** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.5 Sq.mm , 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Core	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	11.5	260	265	1.8	9.5	120	130
3	0.44	0.3	0.9	1.24	12.0	285	295	1.8	10.0	135	145
4	0.44	0.3	0.9	1.24	12.5	325	335	1.8	11.0	160	175
5	0.44	0.3	0.9	1.24	13.5	370	385	1.8	11.5	190	210
6	0.44	0.3	0.9	1.24	14.5	410	425	1.8	12.5	215	240
7	0.44	0.3	0.9	1.24	15.0	420	440	1.8	13.0	225	250
8	0.44	0.3	0.9	1.24	16.0	470	495	1.8	14.0	255	285
10	0.44	0.3	0.9	1.24	17.5	550	575	1.8	15.5	305	340
12	0.44	0.3	0.9	1.24	18	600	635	1.8	16.0	345	385
16	0.44	0.3	4 X 0.8	1.4	19.5	760	805	1.8	17.5	435	490
18	0.44	0.3	4 X 0.8	1.4	20.5	810	860	1.8	18.5	480	540
19	0.44	0.3	4 X 0.8	1.4	21.0	820	870	1.8	19.0	490	555
20	0.44	0.3	4 X 0.8	1.4	21.5	875	925	2.0	20.0	530	600
24	0.44	0.3	4 X 0.8	1.4	23.5	1015	1080	2.0	21.5	620	705
30	0.44	0.3	4 X 0.8	1.4	24.5	1140	1220	2.0	23.0	735	840
37	0.44	0.3	4 X 0.8	1.4	26.5	1335	1435	2.2	24.5	875	1000

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Cores** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **2.5 Sq.mm , 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Core	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.53	0.3	0.9	1.24	13.0	322	330	1.8	10.5	160	175
3	0.53	0.3	0.9	1.24	13.5	355	365	1.8	11.5	180	200
4	0.53	0.3	0.9	1.24	14.5	410	425	1.8	12.5	215	245
5	0.53	0.3	0.9	1.24	15.5	470	490	1.8	13.5	260	295
6	0.53	0.3	0.9	1.24	16.5	535	560	1.8	14.5	300	340
7	0.53	0.3	0.9	1.24	17.0	555	580	1.8	15.0	320	365
8	0.53	0.3	0.9	1.24	18.0	620	650	1.8	16.0	360	410
10	0.53	0.3	4 X 0.8	1.4	20.0	765	805	1.8	18.0	435	500
12	0.53	0.3	4 X 0.8	1.4	21.0	855	900	1.8	18.5	495	570
16	0.53	0.3	4 X 0.8	1.4	22.5	1020	1085	2.0	21.0	650	750
18	0.53	0.3	4 X 0.8	1.4	23.5	1120	1190	2.0	22.0	720	830
19	0.53	0.3	4 X 0.8	1.4	24.0	1140	1215	2.0	22.5	735	850
20	0.53	0.3	4 X 0.8	1.4	25.0	1180	1260	2.0	23.0	775	895
24	0.53	0.3	4 X 0.8	1.4	27.5	1375	1465	2.0	25.5	910	1055
30	0.53	0.3	4 X 0.8	1.4	28.5	1590	1705	2.0	27.0	1090	1270
37	0.53	0.4	4 X 0.8	1.56	31.5	1910	2055	2.0	29.0	1305	1525

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	10.0	190	195	1.8	8.0	81	84
2	0.44	0.3	0.9	1.24	13.0	275	280	1.8	11.0	120	125
4	0.44	0.3	0.9	1.24	14.0	325	340	1.8	12.0	150	165
5	0.44	0.3	0.9	1.24	15.0	375	390	1.8	13.0	190	205
6	0.44	0.3	0.9	1.24	16.0	415	435	1.8	14.0	215	230
8	0.44	0.3	0.9	1.24	17.5	470	495	1.8	16.0	240	265
10	0.44	0.3	0.9	1.24	19.5	555	585	1.8	17.5	295	325
12	0.44	0.3	0.9	1.24	20.0	585	625	1.8	18.0	320	355
16	0.44	0.3	4 X 0.8	1.4	22.0	740	790	1.8	20.0	405	455
18	0.44	0.3	4 X 0.8	1.4	23.0	795	855	1.8	21.0	440	495
19	0.44	0.3	4 X 0.8	1.4	23.5	820	880	1.8	21.5	455	520
20	0.44	0.3	4 X 0.8	1.4	24.5	825	885	2.0	22.5	490	555
24	0.44	0.3	4 X 0.8	1.4	26.5	970	1050	2.0	25.0	580	660
30	0.44	0.3	4 X 0.8	1.4	28.0	1090	1190	2.0	26.5	680	770
37	0.44	0.3	4 X 0.8	1.4	30.0	1225	1345	2.0	28.5	795	905

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.75 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	10.5	205	210	1.8	8.5	91	94
2	0.44	0.3	0.9	1.24	13.5	295	305	1.8	11.5	140	145
4	0.44	0.3	0.9	1.24	15.0	370	380	1.8	13.0	180	195
5	0.44	0.3	0.9	1.24	16.0	430	445	1.8	14.0	225	245
6	0.44	0.3	0.9	1.24	17.0	475	495	1.8	15.5	255	275
8	0.44	0.3	0.9	1.24	19.0	545	575	1.8	17.0	295	325
10	0.44	0.3	4 X 0.8	1.4	21.0	665	705	1.8	19.0	360	400
12	0.44	0.3	4 X 0.8	1.4	22.0	725	775	1.8	20.0	395	440
16	0.44	0.3	4 X 0.8	1.4	24.0	870	920	2.0	22.0	530	590
18	0.44	0.3	4 X 0.8	1.4	25.0	935	1005	2.0	23.0	575	635
19	0.44	0.3	4 X 0.8	1.4	25.5	960	1030	2.0	23.5	600	670
20	0.44	0.3	4 X 0.8	1.4	26.0	975	1055	2.0	24.5	615	685
24	0.44	0.3	4 X 0.8	1.4	29.0	1150	1230	2.0	27.0	730	820
30	0.44	0.3	4 X 0.8	1.4	30.0	1300	1410	2.0	28.5	860	970
37	0.44	0.3	4 X 0.8	1.4	32.5	1505	1635	2.0	31.0	1015	1145

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Overall Screened,** Armoured / Un-Armoured Instrumentation cable of Size **1.0 Sq.mm , 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	11.0	220	225	1.8	9.0	100	104
2	0.44	0.3	0.9	1.24	14.0	325	335	1.8	12.0	155	165
4	0.44	0.3	0.9	1.24	15.5	410	425	1.8	14.0	210	225
5	0.44	0.3	0.9	1.24	17.0	475	495	1.8	15.0	260	280
6	0.44	0.3	0.9	1.24	18.0	530	560	1.8	16.0	300	320
8	0.44	0.3	0.9	1.24	20.0	615	645	1.8	18.0	350	385
10	0.44	0.3	4 X 0.8	1.4	22.5	765	805	1.8	20.0	430	470
12	0.44	0.3	4 X 0.8	1.4	23.0	815	865	1.8	21.0	480	525
16	0.44	0.3	4 X 0.8	1.4	25.0	1000	1060	2.0	23.5	640	700
18	0.44	0.3	4 X 0.8	1.4	26.0	1085	1155	2.0	24.5	695	765
19	0.44	0.3	4 X 0.8	1.4	26.5	1110	1190	2.0	25.0	720	800
20	0.44	0.3	4 X 0.8	1.4	28.0	1135	1215	2.0	26.0	745	825
24	0.44	0.3	4 X 0.8	1.4	30.5	1330	1430	2.0	29.0	890	990
30	0.44	0.3	4 X 0.8	1.4	32.0	1520	1640	2.0	30.5	1060	1180
37	0.44	0.3	4 X 0.8	1.56	35.0	1795	1945	2.0	33.0	1255	1405

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Overall Screened,** Armoured / Un-Armoured Instrumentation cable of Size **1.5 Sq.mm , 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	11.5	245	250	1.8	9.5	115	120
2	0.44	0.3	0.9	1.24	15.0	370	380	1.8	13.0	185	190
4	0.44	0.3	0.9	1.24	17.0	480	495	1.8	15.0	260	280
5	0.44	0.3	0.9	1.24	18.0	560	580	1.8	16.5	320	345
6	0.44	0.3	0.9	1.24	19.5	630	650	1.8	17.5	370	395
8	0.44	0.3	4 X 0.8	1.4	22.0	775	815	1.8	20.0	445	480
10	0.44	0.3	4 X 0.8	1.4	24.5	905	955	2.0	22.5	565	617
12	0.44	0.3	4 X 0.8	1.4	26.5	1125	1190	2.0	24.0	770	835
16	0.44	0.3	4 X 0.8	1.4	27.5	1200	1270	2.0	26.0	810	890
18	0.44	0.3	4 X 0.8	1.4	28.5	1305	1385	2.0	27.0	895	975
19	0.44	0.3	4 X 0.8	1.4	29.0	1340	1430	2.0	27.5	930	1020
20	0.44	0.3	4 X 0.8	1.4	30.5	1405	1495	2.0	29.0	965	1055
24	0.44	0.3	4 X 0.8	1.56	34.0	1660	1770	2.0	32.0	1150	1260
30	0.44	0.3	4 X 0.8	1.56	35.5	1910	2050	2.0	34.0	1380	1510
37	0.44	0.4	4 X 0.8	1.56	38.5	2245	2415	2.2	37.0	1675	1845

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **2.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.53	0.3	0.9	1.24	12.5	295	300	1.8	10.5	145	155
2	0.53	0.3	0.9	1.24	17.0	460	475	1.8	15.0	240	255
4	0.53	0.3	0.9	1.24	19.5	615	645	1.8	17.5	360	390
5	0.53	0.3	4 X 0.8	1.4	21.0	750	790	1.8	19.0	445	480
6	0.53	0.3	4 X 0.8	1.4	23.0	850	890	1.8	20.5	520	560
8	0.53	0.3	4 X 0.8	1.4	25.0	1015	1075	2.0	23.5	655	705
10	0.53	0.3	4 X 0.8	1.4	28.5	1215	1288	2.0	26.5	805	875
12	0.53	0.3	4 X 0.8	1.4	29.5	1325	1405	2.0	27.5	915	995
16	0.53	0.3	4 X 0.8	1.56	32.5	1660	1770	2.0	30.5	1180	1280
18	0.53	0.3	4 X 0.8	1.56	34.0	1805	1925	2.0	32.0	1295	1415
19	0.53	0.3	4 X 0.8	1.56	34.5	1870	2000	2.0	32.5	1360	1480
20	0.53	0.4	4 X 0.8	1.56	36.5	1995	2125	2.2	34.5	1445	1585
24	0.53	0.4	4 X 0.8	1.56	40.0	2320	2480	2.2	38.5	1720	1880
30	0.53	0.4	4 X 0.8	1.56	42.5	2720	2920	2.2	40.5	2070	2270
37	0.53	0.4	4 X 0.8	1.72	46.0	3225	3465	2.2	44.0	2485	2735

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	10.5	197	202	1.8	8.5	83	88
2	0.44	0.3	0.9	1.24	13.5	310	320	1.8	12.0	145	155
4	0.44	0.3	0.9	1.24	15.5	390	410	1.8	13.5	200	220
5	0.44	0.3	0.9	1.24	16.5	440	465	1.8	14.5	230	255
6	0.44	0.3	0.9	1.24	17.5	495	525	1.8	15.5	265	290
8	0.44	0.3	0.9	1.24	19.5	565	605	1.8	17.5	310	350
10	0.44	0.3	4 x 0.8	1.4	21.5	705	755	1.8	19.5	370	420
12	0.44	0.3	4 x 0.8	1.4	22.5	765	815	1.8	20.5	430	485
14	0.44	0.3	4 x 0.8	1.4	23.5	840	910	1.8	21.5	485	550
16	0.44	0.3	4 x 0.8	1.4	24.5	905	975	2.0	23.0	565	645
19	0.44	0.3	4 x 0.8	1.4	25.5	1005	1095	2.0	24.0	635	725
20	0.44	0.3	4 x 0.8	1.4	27.0	1045	1135	2.0	25.5	655	745
24	0.44	0.3	4 x 0.8	1.4	29.5	1205	1315	2.0	28.0	765	875
30	0.44	0.3	4 x 0.8	1.4	31.0	1385	1525	2.0	29.5	925	1065
37	0.44	0.3	4 x 0.8	1.6	33.5	1605	1775	2.0	32.0	1095	1265

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.75 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	11.0	217	222	1.8	9.0	96	102
2	0.44	0.3	0.9	1.24	14.5	350	360	1.8	12.5	165	180
4	0.44	0.3	0.9	1.24	16.5	450	470	1.8	14.5	240	265
5	0.44	0.3	0.9	1.24	17.5	505	535	1.8	15.5	280	310
6	0.44	0.3	0.9	1.24	19.0	565	605	1.8	17.0	320	355
8	0.44	0.3	4 x 0.8	1.4	20.5	675	725	1.8	19.0	390	430
10	0.44	0.3	4 x 0.8	1.4	23.0	825	885	1.8	21.5	470	525
12	0.44	0.3	4 x 0.8	1.4	24.0	905	965	2.0	22.5	565	625
14	0.44	0.3	4 x 0.8	1.4	25.0	1000	1080	2.0	23.5	640	710
16	0.44	0.3	4 x 0.8	1.4	26.5	1105	1185	2.0	24.5	715	795
19	0.44	0.3	4 x 0.8	1.4	27.5	1205	1305	2.0	26.0	815	915
20	0.44	0.3	4 x 0.8	1.4	29.0	1245	1355	2.0	27.5	835	945
24	0.44	0.3	4 x 0.8	1.4	32.0	1445	1575	2.0	30.0	985	1115
30	0.44	0.3	4 x 0.8	1.56	34.0	1705	1865	2.0	32.0	1195	1355
37	0.44	0.4	4 x 0.8	1.56	37.0	1995	2195	2.2	35.0	1455	1655

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.0 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	11.5	237	242	1.8	9.5	107	112
2	0.44	0.3	0.9	1.24	15.0	385	395	1.8	13.5	190	205
4	0.44	0.3	0.9	1.24	17.0	505	525	1.8	15.5	285	310
5	0.44	0.3	0.9	1.24	18.5	575	605	1.8	16.5	335	365
6	0.44	0.3	0.9	1.24	20.0	645	685	1.8	18.0	385	420
8	0.44	0.3	4 x 0.8	1.4	22.0	805	855	1.8	20.0	470	515
10	0.44	0.3	4 x 0.8	1.4	24.5	925	985	2.0	23.0	595	655
12	0.44	0.3	4 x 0.8	1.4	25.5	1045	1115	2.0	23.5	685	755
14	0.44	0.3	4 x 0.8	1.4	26.5	1160	1250	2.0	25.0	780	860
16	0.44	0.3	4 x 0.8	1.4	28.0	1285	1375	2.0	26.5	865	965
19	0.44	0.3	4 x 0.8	1.4	29.5	1405	1525	2.0	27.5	995	1115
20	0.44	0.3	4 x 0.8	1.4	31.0	1465	1585	2.0	29.0	1025	1145
24	0.44	0.3	4 x 0.8	1.4	34.0	1705	1845	2.0	32.5	1215	1355
30	0.44	0.3	4 x 0.8	1.56	36.0	2045	2225	2.0	34.5	1475	1655
37	0.44	0.4	4 x 0.8	1.56	39.0	2405	2625	2.2	37.5	1805	2025

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.44	0.3	0.9	1.24	12.0	267	272	1.8	10.0	127	137
2	0.44	0.3	0.9	1.24	16.5	440	450	1.8	14.5	230	245
4	0.44	0.3	0.9	1.24	18.5	595	625	1.8	16.5	355	380
5	0.44	0.3	0.9	1.24	20.0	685	715	1.8	18.0	420	455
6	0.44	0.3	4 x 0.8	1.4	21.5	795	835	1.8	19.5	485	525
8	0.44	0.3	4 x 0.8	1.4	24.0	965	1015	2.0	22.5	625	675
10	0.44	0.3	4 x 0.8	1.4	27.0	1145	1215	2.0	25.5	755	825
12	0.44	0.3	4 x 0.8	1.4	27.5	1265	1345	2.0	26.0	875	965
14	0.44	0.3	4 x 0.8	1.4	29.0	1410	1510	2.0	27.5	1000	1100
16	0.44	0.3	4 x 0.8	1.4	30.5	1565	1675	2.0	29.0	1125	1235
19	0.44	0.3	4 x 0.8	1.4	32.0	1755	1895	2.0	30.5	1295	1425
20	0.44	0.3	4 x 0.8	1.56	34.0	1855	1995	2.0	32.0	1345	1485
24	0.44	0.4	4 x 0.8	1.56	38.0	2195	2365	2.2	36.0	1625	1795
30	0.44	0.4	4 x 0.8	1.56	40.0	2575	2785	2.2	38.5	1975	2185
37	0.44	0.4	4 x 0.8	1.56	43.0	3025	3275	2.2	41.5	2375	2635

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **2.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
1	0.53	0.3	0.9	1.24	13.0	332	342	1.8	11.5	172	182
2	0.53	0.3	0.9	1.24	18.5	555	575	1.8	16.5	310	330
4	0.53	0.3	4 x 0.8	1.4	21.5	805	845	1.8	19.5	500	535
5	0.53	0.3	4 x 0.8	1.4	23.0	925	975	2.0	21.5	615	665
6	0.53	0.3	4 x 0.8	1.4	25.0	1085	1145	2.0	23.5	715	775
8	0.53	0.3	4 x 0.8	1.4	28.0	1315	1395	2.0	26.5	905	975
10	0.53	0.3	4 x 0.8	1.4	31.5	1565	1665	2.0	30.0	1095	1195
12	0.53	0.3	4 x 0.8	1.56	33.0	1765	1885	2.0	31.0	1285	1405
14	0.53	0.3	4 x 0.8	1.56	34.5	2000	2140	2.0	32.5	1470	1610
16	0.53	0.4	4 x 0.8	1.56	36.5	2235	2395	2.2	34.5	1685	1845
19	0.53	0.4	4 x 0.8	1.56	38.5	2525	2715	2.2	36.5	1955	2145
20	0.53	0.4	4 x 0.8	1.56	40.5	2635	2835	2.2	38.5	2035	2235
24	0.53	0.4	4 x 0.8	1.72	45.0	3125	3365	2.2	43.0	2415	2645
30	0.53	0.4	4 x 0.8	1.72	48.0	3735	4035	2.4	46.0	2995	3295
37	0.53	0.4	4 x 0.8	1.88	52.0	4445	4815	2.4	49.5	3605	3975

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLS PVC INSULATED, ATC WIRE BRAIDED, FRLS PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLS / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	14.0	314	324	1.8	12.0	144	154
4	0.44	0.3	0.9	1.24	15.5	391	401	1.8	13.5	191	206
5	0.44	0.3	0.9	1.24	16.5	439	454	1.8	14.5	224	244
6	0.44	0.3	0.9	1.24	18.0	485	500	1.8	16.0	255	275
8	0.44	0.3	0.9	1.24	19.5	585	615	1.8	17.5	330	355
10	0.44	0.3	4 X 0.8	1.4	22.0	726	756	1.8	20.0	396	426
12	0.44	0.3	4 X 0.8	1.4	22.5	759	799	1.8	20.5	424	464
16	0.44	0.3	4 X 0.8	1.4	25.0	920	970	2.0	23.0	560	610
18	0.44	0.3	4 X 0.8	1.4	26.0	982	1032	2.0	24.5	612	672
19	0.44	0.3	4 X 0.8	1.4	26.5	998	1058	2.0	25.0	628	688
20	0.44	0.3	4 X 0.8	1.4	27.5	1065	1125	2.0	25.5	675	735
24	0.44	0.3	4 X 0.8	1.4	30.5	1200	1280	2.0	28.5	760	840
30	0.44	0.3	4 X 0.8	1.4	31.5	1370	1470	2.0	30.0	910	1000
37	0.44	0.3	4 X 0.8	1.56	34.5	1600	1710	2.0	32.5	1080	1200

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.75 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	14.5	344	354	1.8	12.5	164	169
4	0.44	0.3	0.9	1.24	16.5	431	446	1.8	14.5	221	236
5	0.44	0.3	0.9	1.24	17.5	494	514	1.8	16.0	264	284
6	0.44	0.3	0.9	1.24	19.0	550	570	1.8	17.0	300	320
8	0.44	0.3	4 X 0.8	1.4	21.0	695	725	1.8	19.0	390	415
10	0.44	0.3	4 X 0.8	1.4	23.5	826	866	2.0	22.0	486	526
12	0.44	0.3	4 X 0.8	1.4	24.0	869	909	2.0	22.5	529	579
16	0.44	0.3	4 X 0.8	1.4	26.5	1050	1110	2.0	25.0	670	720
18	0.44	0.3	4 X 0.8	1.4	28.0	1122	1192	2.0	26.5	732	802
19	0.44	0.3	4 X 0.8	1.4	28.5	1148	1218	2.0	27.0	758	828
20	0.44	0.3	4 X 0.8	1.4	29.5	1225	1295	2.0	28.0	805	885
24	0.44	0.3	4 X 0.8	1.56	32.5	1410	1500	2.0	30.5	920	1010
30	0.44	0.3	4 X 0.8	1.56	34.5	1640	1750	2.0	32.5	1100	1210
37	0.44	0.4	4 X 0.8	1.56	37.0	1900	2040	2.2	35.5	1360	1490

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.0 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	15.5	374	384	1.8	13.5	184	189
4	0.44	0.3	0.9	1.24	17.0	476	491	1.8	15.5	256	271
5	0.44	0.3	0.9	1.24	18.5	544	564	1.8	16.5	304	324
6	0.44	0.3	0.9	1.24	20.0	610	630	1.8	18.0	345	370
8	0.44	0.3	4 X 0.8	1.4	22.0	785	815	1.8	20.0	445	480
10	0.44	0.3	4 X 0.8	1.4	24.5	896	936	2.0	23.0	566	606
12	0.44	0.3	4 X 0.8	1.4	25.5	979	1029	2.0	24.0	619	669
16	0.44	0.3	4 X 0.8	1.4	28.0	1190	1260	2.0	26.5	780	840
18	0.44	0.3	4 X 0.8	1.4	29.5	1302	1372	2.0	28.0	862	932
19	0.44	0.3	4 X 0.8	1.4	30.0	1328	1408	2.0	27.0	888	968
20	0.44	0.3	4 X 0.8	1.4	31.0	1415	1495	2.0	28.5	945	1025
24	0.44	0.3	4 X 0.8	1.56	34.5	1630	1720	2.0	31.5	1090	1190
30	0.44	0.4	4 X 0.8	1.56	36.5	1890	2010	2.2	33.5	1340	1460
37	0.44	0.4	4 X 0.8	1.56	39.5	2210	2350	2.2	36.5	1610	1760

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	16.5	419	429	1.8	14.5	214	219
4	0.44	0.3	0.9	1.24	18.5	551	571	1.8	16.5	306	326
5	0.44	0.3	4 X 0.8	1.24	19.5	634	654	1.8	18.0	364	389
6	0.44	0.3	4 X 0.8	1.4	21.5	730	760	1.8	19.5	420	450
8	0.44	0.3	4 X 0.8	1.4	24.0	905	945	2.0	22.5	565	605
10	0.44	0.3	4 X 0.8	1.4	27.0	1076	1116	2.0	25.5	686	726
12	0.44	0.3	4 X 0.8	1.4	28.0	1149	1209	2.0	26.0	759	819
16	0.44	0.3	4 X 0.8	1.4	30.5	1400	1480	2.0	29.0	970	1040
18	0.44	0.3	4 X 0.8	1.4	32.0	1532	1612	2.0	30.5	1072	1152
19	0.44	0.3	4 X 0.8	1.4	32.5	1568	1658	2.0	31.0	1108	1198
20	0.44	0.3	4 X 0.8	1.56	34.0	1695	1785	2.0	32.0	1175	1275
24	0.44	0.4	4 X 0.8	1.56	38.0	1970	2080	2.2	36.0	1400	1510
30	0.44	0.4	4 X 0.8	1.56	40.0	2280	2420	2.2	38.5	1680	1820
37	0.44	0.4	4 X 0.8	1.56	43.0	2670	2840	2.2	41.5	2020	2190

Stranded Copper Conductor, PE / PVC Insulated, **Pairs** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **2.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Pair	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.53	0.3	0.9	1.24	18.5	514	524	1.8	16.5	274	289
4	0.53	0.3	4 X 0.8	1.4	21.5	721	751	1.8	19.5	416	441
5	0.53	0.3	4 X 0.8	1.4	23.0	834	864	2.0	21.5	514	554
6	0.53	0.3	4 X 0.8	1.4	25.0	960	1000	2.0	23.5	600	640
8	0.53	0.3	4 X 0.8	1.4	28.0	1155	1215	2.0	26.0	775	825
10	0.53	0.3	4 X 0.8	1.4	31.0	1396	1466	2.0	29.5	936	1006
12	0.53	0.3	4 X 0.8	1.56	32.5	1539	1619	2.0	30.5	1059	1139
16	0.53	0.4	4 X 0.8	1.56	36.0	1930	2040	2.2	34.5	1380	1490
18	0.53	0.4	4 X 0.8	1.56	38.0	2102	2222	2.2	36.5	1532	1652
19	0.53	0.4	4 X 0.8	1.56	38.5	2168	2288	2.2	37.0	1598	1718
20	0.53	0.4	4 X 0.8	1.56	40.0	2285	2415	2.2	38.5	1685	1825
24	0.53	0.4	4 X 0.8	1.72	44.5	2680	2840	2.2	42.5	1970	2130
30	0.53	0.5	4 X 0.8	1.72	47.5	3170	3370	2.4	45.5	2430	2630
37	0.53	0.5	4 X 0.8	1.88	51.5	3750	4000	2.4	49.5	2920	3170

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	15.0	352	357	1.8	13.0	162	172
4	0.44	0.3	0.9	1.24	17.0	446	466	1.8	15.0	231	251
5	0.44	0.3	0.9	1.24	18.0	529	549	1.8	16.5	289	314
6	0.44	0.3	0.9	1.24	19.5	590	620	1.8	17.5	335	360
8	0.44	0.3	4 X 0.8	1.4	21.5	701	741	1.8	19.5	391	431
10	0.44	0.3	4 X 0.8	1.4	24.0	822	872	2.0	22.5	482	532
12	0.44	0.3	4 X 0.8	1.4	25.0	910	970	2.0	23.5	550	600
14	0.44	0.3	4 X 0.8	1.4	26.0	972	1042	2.0	24.5	612	672
16	0.44	0.3	4 X 0.8	1.4	27.5	1111	1181	2.0	26.0	721	791
19	0.44	0.3	4 X 0.8	1.4	28.5	1190	1280	2.0	27.0	780	870
20	0.44	0.3	4 X 0.8	1.4	30.0	1265	1355	2.0	28.5	825	925
24	0.44	0.3	4 X 0.8	1.56	33.5	1475	1585	2.0	31.5	965	1075
30	0.44	0.4	4 X 0.8	1.56	35.5	1700	1850	2.2	34.0	1180	1320
37	0.44	0.4	4 X 0.8	1.56	38.5	1982	2162	2.2	36.5	1412	1592

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **0.75 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	16.0	387	397	1.8	14.0	187	197
4	0.44	0.3	0.9	1.24	18.0	501	531	1.8	16.0	276	296
5	0.44	0.3	0.9	1.24	19.5	599	619	1.8	17.5	344	369
6	0.44	0.3	4 X 0.8	1.4	21.0	700	740	1.8	19.0	395	430
8	0.44	0.3	4 X 0.8	1.4	23.0	801	851	2.0	21.5	491	541
10	0.44	0.3	4 X 0.8	1.4	26.0	952	1002	2.0	24.5	582	642
12	0.44	0.3	4 X 0.8	1.4	26.5	1050	1120	2.0	25.0	670	730
14	0.44	0.3	4 X 0.8	1.4	28.0	1162	1232	2.0	26.3	742	822
16	0.44	0.3	4 X 0.8	1.4	29.5	1291	1371	2.0	27.5	871	961
19	0.44	0.3	4 X 0.8	1.4	31.0	1400	1500	2.0	29.2	960	1060
20	0.44	0.3	4 X 0.8	1.56	33.0	1505	1615	2.0	31.0	1015	1125
24	0.44	0.4	4 X 0.8	1.56	36.5	1775	1905	2.2	34.5	1225	1355
30	0.44	0.4	4 X 0.8	1.56	38.5	2040	2200	2.2	36.5	1470	1630
37	0.44	0.4	4 X 0.8	1.56	41.5	2382	2582	2.2	39.5	1762	1962

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.0 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	16.5	422	432	1.8	14.5	212	227
4	0.44	0.3	0.9	1.24	19.0	571	591	1.8	17.0	321	346
5	0.44	0.3	0.9	1.24	20.5	669	699	1.8	18.5	399	429
6	0.44	0.3	4 X 0.8	1.4	22.0	790	830	1.8	20.0	460	495
8	0.44	0.3	4 X 0.8	1.4	24.5	921	961	2.0	23.0	581	631
10	0.44	0.3	4 X 0.8	1.4	27.5	1082	1142	2.0	25.5	692	752
12	0.44	0.3	4 X 0.8	1.4	28.0	1210	1280	2.0	26.5	790	860
14	0.44	0.3	4 X 0.8	1.4	29.5	1332	1412	2.0	28.0	892	972
16	0.44	0.3	4 X 0.8	1.4	31.0	1501	1601	2.0	29.5	1041	1131
19	0.44	0.3	4 X 0.8	1.4	32.5	1640	1750	2.0	31.0	1150	1260
20	0.44	0.3	4 X 0.8	1.56	34.5	1755	1875	2.0	33.0	1225	1345
24	0.44	0.4	4 X 0.8	1.56	38.5	2045	2185	2.2	37.0	1465	1615
30	0.44	0.4	4 X 0.8	1.56	40.5	2390	2570	2.2	39.0	1760	1940
37	0.44	0.4	4 X 0.8	1.56	44.0	2802	3022	2.2	42.0	2122	2352

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **1.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.44	0.3	0.9	1.24	18.0	482	497	1.8	16.0	252	267
4	0.44	0.3	4 X 0.8	1.24	20.0	681	711	1.8	18.5	391	421
5	0.44	0.3	4 X 0.8	1.4	22.0	819	859	1.8	20.0	489	519
6	0.44	0.3	4 X 0.8	1.4	24.0	930	970	2.0	22.0	590	630
8	0.44	0.3	4 X 0.8	1.4	26.5	1111	1161	2.0	25.0	721	771
10	0.44	0.3	4 X 0.8	1.4	30.0	1302	1372	2.0	28.0	862	932
12	0.44	0.3	4 X 0.8	1.4	30.5	1430	1520	2.0	29.0	990	1080
14	0.44	0.3	4 X 0.8	1.56	32.5	1612	1712	2.0	30.5	1122	1222
16	0.44	0.3	4 X 0.8	1.56	34.0	1811	1931	2.0	32.5	1301	1411
19	0.44	0.4	4 X 0.8	1.56	36.0	2040	2170	2.2	34.5	1500	1630
20	0.44	0.4	4 X 0.8	1.56	38.0	2155	2295	2.2	36.5	1585	1725
24	0.44	0.4	4 X 0.8	1.56	42.0	2515	2675	2.2	40.5	1865	2025
30	0.44	0.4	4 X 0.8	1.72	45.0	2960	3170	2.2	43.0	2250	2460
37	0.44	0.5	4 X 0.8	1.72	48.5	3532	3792	2.4	47.0	2762	3022

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

INSTRUMENTATION CABLES

Stranded Copper Conductor, PE / PVC Insulated, **Triads** Laid Up, Aluminium Mylar tape **Individual & Overall Screened**, Armoured / Un-Armoured Instrumentation cable of Size **2.5 Sq.mm, 300 / 500 V** Generally as per BSEN:50288-7/2005

No. of Triad	Minimum Thickness of Insulation	ARMOURED CABLES						UN-ARMOURED CABLES			
		Minimum Thickness of Inner sheath	Nominal Diameter of Armour Wire/ Strip	Minimum Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable		Nominal Thickness of outer sheath	Overall Diameter of Cable (Approx.)	Approx. Weight of Cable	
						PE Insulation	PVC Insulation			PE Insulation	PVC Insulation
Unit	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	mm	mm	Kg/Km	Kg/Km
2	0.53	0.3	4 X 0.8	1.4	20.5	647	667	1.8	18.5	337	357
4	0.53	0.3	4 X 0.8	1.4	23.5	901	941	2.0	22.0	561	601
5	0.53	0.3	4 X 0.8	1.4	25.5	1059	1109	2.0	24.0	699	749
6	0.53	0.3	4 X 0.8	1.4	27.5	1200	1260	2.0	26.0	810	870
8	0.53	0.3	4 X 0.8	1.4	31.0	1441	1521	2.0	29.0	1011	1091
10	0.53	0.4	4 X 0.8	1.56	35.0	1772	1872	2.2	33.5	1252	1352
12	0.53	0.4	4 X 0.8	1.56	36.5	2000	2120	2.2	34.5	1450	1570
14	0.53	0.4	4 X 0.8	1.56	38.0	2212	2352	2.2	36.5	1642	1782
16	0.53	0.4	4 X 0.8	1.56	40.0	2491	2651	2.2	38.5	1891	2051
19	0.53	0.4	4 X 0.8	1.56	42.5	2800	2980	2.2	40.5	2150	2340
20	0.53	0.4	4 X 0.8	1.72	45.0	2985	3185	2.2	43.0	2275	2475
24	0.53	0.5	4 X 0.8	1.88	50.5	3565	3805	2.4	48.5	2725	2965
30	0.53	0.5	4 X 0.8	1.88	53.5	4170	4470	2.6	51.5	3360	3660
37	0.53	0.5	4 X 0.8	2.04	58.0	4982	5352	2.6	56.0	4062	4432

MAXIMUM CONDUCTOR RESISTANCE AT 20°C (Ω/km)

SIZE	CORES / SINGLE PAIR / SINGLE TRIAD				MULTI PAIR / MULTI TRIAD			
	CLASS - 1 & CLASS - 2		CLASS - 5		CLASS - 1 & CLASS - 2		CLASS - 5	
	PLAIN	TINNED	PLAIN	TINNED	PLAIN	TINNED	PLAIN	TINNED
0.5	36.0	36.7	39.0	40.1	36.7	37.4	39.8	40.9
0.75	24.5	24.8	26.0	26.7	25.0	25.3	26.5	27.2
1.0	18.1	18.2	19.5	20.0	18.5	18.6	19.9	20.4
1.5	12.1	12.2	13.3	13.7	12.3	12.4	13.6	14.0
2.5	7.41	7.56	7.98	8.21	7.56	7.71	8.14	8.37

INSTRUMENTATION CABLES WITH SOLID / FLEXIBLE CONDUCTOR, XLPE / HRPVC / FRLSH PVC INSULATED, ATC WIRE BRAIDED, FRLSH PVC INNER SHEATHED, G.I. STEEL FLAT WIRE / ATC WIRE ARMOURED AND OVERALL FRLSH / ZHFR PVC SHEATED CABLES ARE ALSO AVAILABLE ON CUSTOMER REQUIREMENTS.

RECOMMENDATIONS FOR CABLE PULLING DURING INSTALLATION AND CABLE HANDLING

A. ***Maximum permitted Pulling Force when applied on the cables conductors***

Total cross section area of Cu conductors (mm^2) X 5 = max permitted pulling force (Kg)

Total cross section area of Al conductors (mm^2) X 3 = max permitted pulling force (kg)

B. ***Pulling with cable stocking***

- Armoured Cables : $P = 1,2*D^2$
- Un-armoured Cables : $P = 0,5*D^2$

Where : D = Overall cable Diameter in mm

P = Pulling Force in Kg

C. ***Minimum Bending radius during installation***

- ***for 1KV cables***

Single core-armoured and un-armoured cables } 15*D

Multi core-armoured and un-armoured cables } 12*D

- ***for 450/750V cables***

Single core-armoured and un-armoured cables

Multi core-armoured and un-armoured cables } 6*D

RECOMMENDATIONS FOR STORAGE AND INSTALLATION OF CABLES

HANDLING AND STORAGE

Handling at site: While unloading the cable drums certain precautions are to be taken for ensuring the safety of the cable.

WRONG

CORRECT

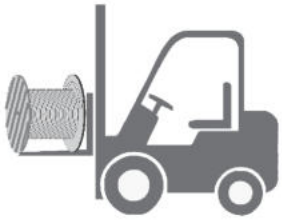
When using a lift or crane use a spreader bar longer than the overall drum width, just above the drum flanges. Without a spreader bar this will lead to bending of drum flanges crushing and damaging the cable.

WRONG

CORRECT

When unloading from the truck, an inclined ramp should be used to lower the drum. Do not drop the drum directly from the truck as it may lead to the damage of the drum and subsequently the cable.

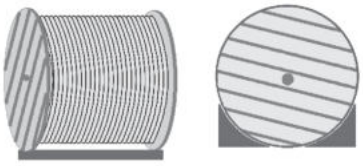
WRONG



CORRECT

While using forklift for handling or shifting the drum, the drum should be perpendicular to the forks, rather than parallel. Do not allow the forks to be in contact with the cable.

WRONG



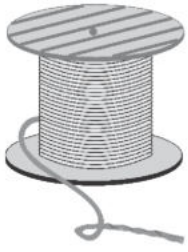
CORRECT

STORAGE

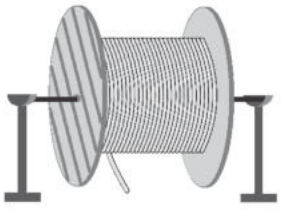
Cable drums should be stored on plain ground without any hard stones projecting above the surface and dry place away from direct sunlight and rain . All cable drums should be stored with the battens intact, with sufficient space in between the drums. Ensure stoppers for every drum to avoid the drum movement after storage. Cable drums should not be stored one above the other.

INSTALLATION AND LAYING

While laying of cables special care has to be taken. The cable end should be pulled with pulling eye only after mounting the drum on the jacks. Do not keep the drum on its flange while pulling the cable. This will result in bird caging (twists and deformation of cable) and armour swelling.

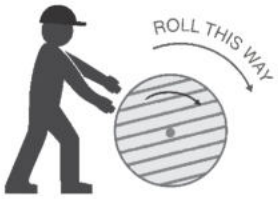


WRONG



CORRECT

WRONG



CORRECT

Minimum Bending Radius:		
Cable Type	Single Core	Multi Core
HT Cable	20xD	15xD
LT Cable	15xD	12xD

TESTING AT SITE

After the cable is installed before commissioning, it should be tested for DC High voltage. The recommended voltage and duration will be as per IS:1255. Megger, continuity and cross continuity to be checked on each core before and after laying.

INSUCON

INSUCON CABLES AND CONDUCTORS PRIVATE LIMITED

Office Address :
C-374, Vaishali Nagar (Behind Amar Jain Hospital)
Jaipur - 302021 (Raj.)
0141 - 2370184 / 4049438

Works & Registered Address :
F 59 - 63, Road No. 5A, Bindayaka Industrial Area,
Jaipur - 302 041 (Raj.) 0141 - 2240557 / 2240548

marketing@insuconcables.com
info@insuconcables.com
www.**insuconcables.com**

Branches :

Delhi	:	+91 89492 33990
Kolkata	:	+91 82900 73333
Bangalore	:	+91 99006 56565