



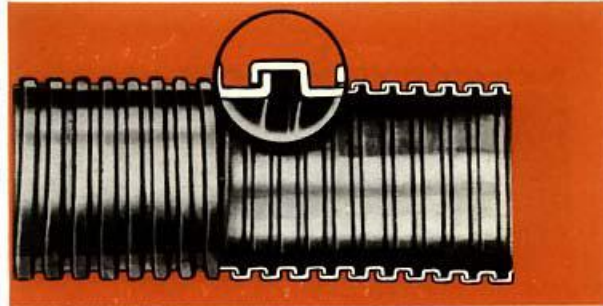
ALLZAFLEX®

**FLEXIBLE TUBING FOR
ALL INDUSTRIAL PURPOSES**

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ELECTRICAL CONDUIT UNPACKED



1. NAME : Electrical Conduit Unpacked.

2. TYPE : EC.

3. MATERIAL

- (a) Electro-galvanised steel.
- (b) Brass.
- (c) Aluminium.
- (d) Stainless steel.

4. CONSTRUCTION

It is a square lock construction in which a metallic strip is helically coiled continuously. The conduit is extremely flexible and still quite strong.

5. USES

- (a) As mechanical protection for insulated electrical cables and wires which may be exposed to normal atmospheric conditions.
- (b) As decorative flexible tube for bathroom fittings.
- (c) As protective covering for rubber and plastic tubing in domestic gas appliances such as burners, ovens and gas water heaters.

6. SIZES : 6 mm to 250 mm I. D.

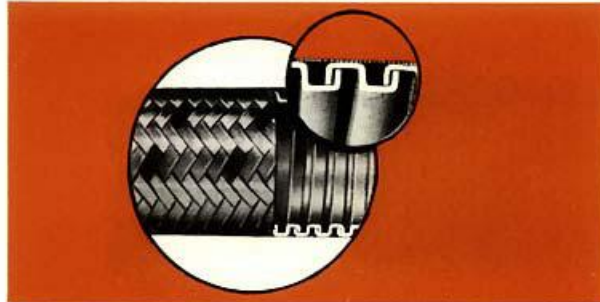
7. SPECIFICATIONS

- (a) IS 3480 1966
- (b) BS 731 Part I, 1952 as per Amendment No. 3 of Aug. 72.
- (c) Commercial quality.



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ELECTRICAL CONDUIT WIRE BRAIDED



1. NAME : Electrical Conduit Wire Braided.

2. TYPE : EC - Wire Braided.

3. MATERIAL

- (a) Electro - galvanised steel.
- (b) Brass.
- (c) Aluminium.
- (d) Stainless steel.

4. CONSTRUCTION

The inner tube is of square lock construction in which the strip is helically wound. Wire braiding is done on the top to protect the metal hose and to increase its life.

5. USES

- (a) Wire braiding on top of the conduit gives the pipe extra resistance against pulling loads and therefore it is used in machine lines which are having up and down or to and fro movement.
- (b) Due to its ability to withstand more crushing loads, it finds its application in congested areas of wire layouts.
- (c) It has all the qualities of normal EC in addition it has resistance to pulling, compression and impact loads.

6. SIZE : 10mm to 50mm I.D.

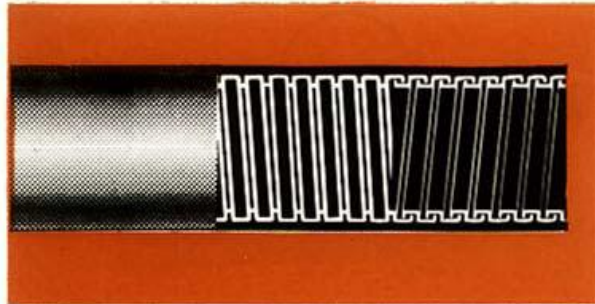
7. SPECIFICATIONS

- (a) IS 3480 1966.
- (b) BS 731 Part I, 1952 as per Amendment No. 3 of Aug. 1972.
- (c) Commercial quality.

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ELECTRICAL CONDUIT PVC COVERED



1. NAME : Electrical Conduit PVC Covered.

2. TYPE : EC - PVC.

3. MATERIAL : Electro - galvanised steel.

4. CONSTRUCTION

Similar to EC but with PVC extrusion on top.
It can withstand temperature up to 300 °F.

5. USES

The tube is petrol and oil resistant and is completely dust and water - proof. It is extensively used as protective conduit :-

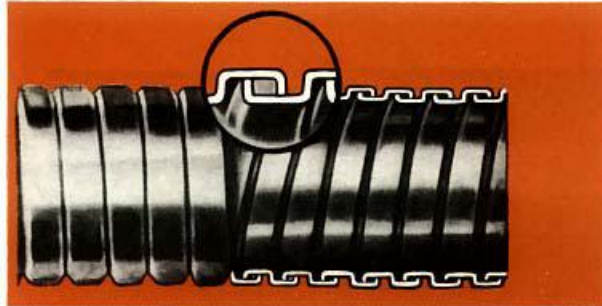
- (a) For electrical wires and cables in chemical plants, petrochemical plants, refineries steel plants and ship building.
- (b) In industries with corrosive and moist atmospheric conditions.
- (c) Near steam lines as PVC can withstand high temperature.
- (d) For outdoor street lighting.
- (e) As automobile speedometer cable conduit.
- (f) For underground electrical fittings etc.

6. SIZE : 6 mm to 80 mm I. D.



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ASBESTOS PACKED CONDUIT



1. NAME : Asbestos Packed Conduit.

2. TYPE : APC.

3. MATERIAL

- (a) Electro-galvanised steel.
- (b) Brass.
- (c) Aluminium.

4. CONSTRUCTION

It is a square lock construction in which a metallic strip is wound helically. During manufacture an asbestos packing is inserted between the coils. Can withstand temperature upto 600°C.

5. USES

- (a) As mechanical protection for insulated wires and cables which are likely to be exposed to hot and corrosive atmospheric conditions.
- (b) As a low pressure tubing, where more flexibility and lightness are required, such as suction of fumes and dust particles. Can be supplied in thicker gauge for heavy duty
- (c) As exit for exhaust of petrol and diesel engines.
- (d) As a mechanical protection for flexible drives such as flexible shaft grinders and vibrators.
- (e) As low pressure ducting in industrial and domestic air conditioning and ventilation systems.

6. SIZES : 8 mm to 300 mm I. D.

7. SPECIFICATIONS

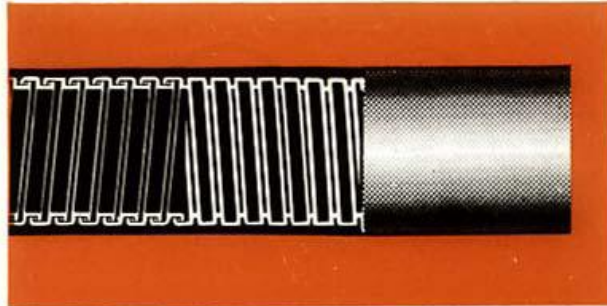
BS 731 Part 1 1952.

BS 731 Part 2 1958.

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ASBESTOS PACKED CONDUIT PVC COVERED



1. NAME : Asbestos Packed Conduit PVC Covered.
2. TYPE : APC - PVC.
3. MATERIAL
Electro - galvanised steel.
4. CONSTRUCTION
Same as for APC but with a extrusion of PVC on top.
Can withstand temperature upto 300°F.
5. USES
Same as APC but cannot be used for engine exhaust gases due to PVC. It is stronger than APC but less flexible. It is extremely useful in moderate temperature and highly corrosive atmosphere which exists in chemical industries, refineries and petrochemical plants.
6. SIZES : 8 mm to 50 mm I. D.



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MPM TUBING



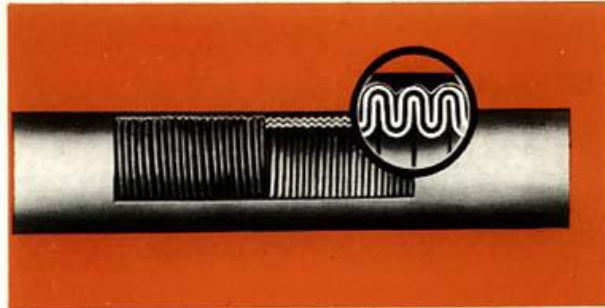
1. NAME : Metal Paper Metal Tubing.
2. TYPE : MPM.
3. MATERIAL
 - (a) Lead coated steel.
 - (b) Tin coated steel.
 - (c) Electro-galvanised steel.
 - (d) Aluminium.
4. CONSTRUCTION

In the construction of MPM tubing craft paper is sandwiched between two layers of steel. During manufacturing process corrugations are formed which make the tubing pliable. The craft paper acts as sealant and insulator thereby making the tube more suitable for various industrial applications. This tubing is specially recommended for power generating and boiler rooms where the temperature is quite high and normal electrical wire sheathing does not with-stand that temperature. It is air tight, dust proof, water proof and can withstand temperature up to 600°F and pressure upto 60 p.s.i.
5. USES
 - (a) Most suitable for electrical cable sheathing.
 - (b) In thermal power stations, refineries and chemical plants where heat zones are a big hazard, this gives a very good protecting cover to cable layouts.
 - (c) Craft paper which acts as sealer and insulator makes it highly weather proof, dust proof and heat resistant.
 - (d) This tubing can be bent by hand into the desired shape without deformation and can be used in underground cable layouts.
 - (e) Finds application in concealed wiring and in underground cable layouts.
 - (f) Being decorative, it is extensively used in Aircraft industry, Railway coaches, Ship building and in Automobile body construction.
 - (g) A low pressure tubing.
6. SIZE
10 mm to 50 mm both O. D. and I. D. as per your requirement.
7. SPECIFICATION
DIN 57000 FF / DIN 49023.

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MPM TUBING PVC COVERED



1. NAME : METAL PAPER METAL PVC COVERED TUBING.
2. TYPE : MPM-PVC.
3. MATERIAL
 - (a) Lead coated steel.
 - (b) Tin coated steel.
 - (c) Electro-galvanised steel.
 - (d) Aluminium.
4. CONSTRUCTION

A layer of PVC is extruded on the MPM tubing which renders it highly suitable for heat and corrosive zones. Maximum temperature 300 °F.
5. USES

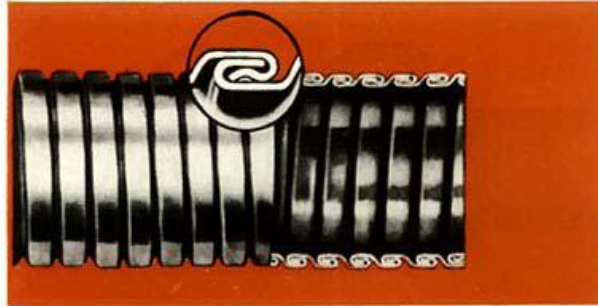
Due to PVC coating it is most suitable as protective armour sheathing in the following applications :—

 - (a) In chemical plants.
 - (b) In corrosive atmospheres.
 - (c) In moisture laden climate and oily surroundings.
 - (d) Extensively used in air conditioning.
 - (e) In paper and sugar mills.
 - (f) A low pressure tubing.
6. SIZE : 10 mm to 50mm I. D.



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INTERLOCK TUBING EXHAUST



1. NAME : Interlock Tubing Exhaust.

2. TYPE : ITE.

3. MATERIAL

- (a) Electro - galvanised steel.
- (b) Stainless steel.

4. CONSTRUCTION

It is an interlock construction in which a metallic strip is helically wound. During the process an asbestos yarn or a copper wire is inserted in between the coils. Can be supplied without packing for extra flexibility. Can withstand temperature up to 800°C.

5. USES

- (a) As exhaust pipe line for engines
- (b) Mechanical protective casing for flexible drives.
- (c) For armouring high voltage electric cables.

6. SIZES : 25 mm to 900 mm I.D.

7. SPECIFICATIONS

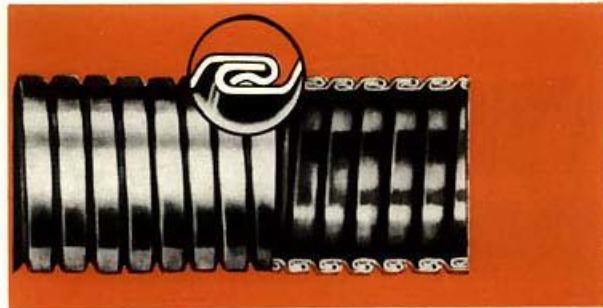
BS 731 Part 2 : 1958.

BS 1465 : 1948.

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INTERLOCK TUBING PRESSURE



1. NAME : Interlock Tubing Pressure.

2. TYPE : ITP.

3. MATERIAL

(a) Electro-galvanised steel.

(d) Nickel-silver alloy.

(b) Aluminium.

(e) Copper.

(c) Phosphor-bronze.

(f) Stainless steel.

4. CONSTRUCTION

It is an interlock construction in which a metallic strip of high quality is helically coiled. During process asbestos yarn is inserted in between the coils. It is of very strong construction and can even take compression load. Can withstand temperature up to 800°C.

5. USES

(a) As suction and pressure hose for water, steam, oils, liquids, chemicals and liquid gases etc.,

(b) For articulated movements.

(c) As expansion joints to compensate for expansion and contraction.

(d) As vibration absorber even under heavy conditions of pressure and temperature.

(e) For transportation of food grains and other cereals and chemical salts from ships to port platforms.

(f) As an outer jacket for insulated pipelines.

6. SIZES : 12 mm to 600 mm I. D.

7. SPECIFICATIONS

BS 731 Part 2 1958.

BS 1465 1948.

8. WORKING INFORMATION

	mm	12	19	25	30	38	50	63	75	88	100	112	125	150	175	200	250	300
I. D	Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	10	12
Bend Radius		7	9	11	12	12	16	19.5	21	22	23	29	35	39	41	55	59	67
Working pressure in p s i.		400	375	300	200	200	150	150	150	150	150	150	150	130	80	80	50	50
Max. test pressure in p s i.		650	560	450	300	300	225	225	225	225	225	225	225	200	120	120	100	100



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SPIRAL TUBING



1. NAME : Spiral Tubing.
2. TYPE : SPIRO.
3. MATERIAL : Aluminium, Tinplated steel, Stainless steel, Galvanised steel and Perforated steel.
4. CONSTRUCTION

This type of tubing is manufactured from corrugated coil stock. The corrugated strip is lockseamed to any diameter for leakproofness. SPIRO tubing are available in both rigid and flexible form. Due to corrugations an extremely attractive weight v/s. strength ratio is achieved. The tubing is easily to handle and highly flexible.

5. USES

- | | |
|------------------------------------|--------------------------------|
| (a) High and low pressure ducting. | (e) Acoustical (perforated). |
| (b) Drainage. | (f) Concrete cable covers. |
| (c) Exhaust and ventilation. | (g) Chimney liners. |
| (d) Conduit. | (h) Blow pipe. |

6. SIZE : 2 to 36 inches O. D.

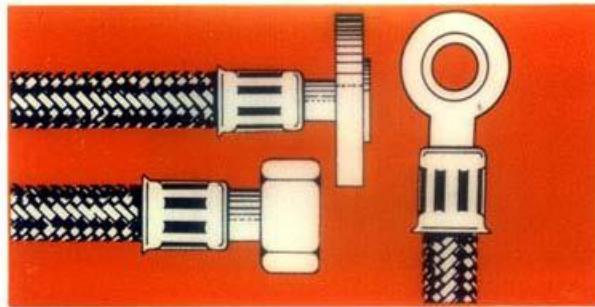
7. WORKING PARTICULARS

I. D. in inches	4	6	8	10	12	14	16
Bend radius in inches	2	3	4	5	6	7	8
Positive pressure	16 inches water gauge (static pressure).						

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SUPERFLEXIBLE WIRE BRAIDED



1. NAME : Superflexible Wire Braided.
2. TYPE : ULTRAFLEX.

3. MATERIAL

Core

- (a) Electro – galvanised steel.
- (b) Brass.
- (c) Copper.
- (d) Phosphor – bronze.
- (e) Stainless steel.

Covering layer

- (a) Natural rubber.
- (b) Synthetic rubber.

Wire braiding

- (a) Steel.
- (b) Copper.
- (c) Tinned copper.

4. CONSTRUCTION

A heavy gauge metallic core with an extruded rubber covering subsequently wire braided upon for reinforcement and added strength. It can withstand temperature up to 210 °C.

5. USES

A light in weight pressure hose with superflexibility and high strength. It is suitable for :-

- (a) Suction and pressure lines in hydraulic systems.
- (b) Suction and pressure lines in pneumatic systems.
- (c) Steam lines.
- (d) It is abundantly used by Paper plants, Chemical plants, Petrochemical plants, Fertilizers & Refineries.
- (e) Tyre & moulding presses.

6. SIZES : 8 mm to 50 mm I. D.

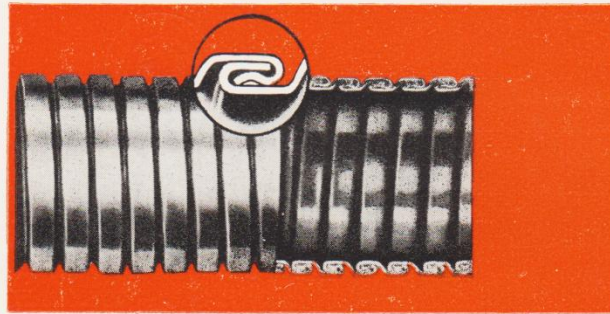
7. WORKING PARTICULARS

Sr. No.	I.D mm	O.D approx mm	Working Pressure in psi	Test Pressure in psi	Bend Radius in mm
1.	8	18	825	1650	93
2.	10	20	810	1620	96
3.	12	22	705	1410	102
4.	15	25	600	1200	125
5.	19	29	510	1020	145
6.	25	37	420	840	170
7.	38	56	330	660	220
8.	50	66	210	420	345



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INTERLOCK TUBING PRESSURE - S



1. NAME : Interlock Tubing Pressure - S.

2. TYPE : ITP - S.

3. MATERIAL
Electro - galvanised steel.

4. CONSTRUCTION

It is a helically wound tubing of electro-galvanised steel of heavy gauge similar to ITP. In this tubing asbestos yarn is replaced with a special type of synthetic filler which is not acted upon by the low density hydrocarbon fluids. This tubing is not suitable for steam.

5. USES

(a) For carrying hydrocarbon fluids like Toluene, P6, Benzene etc.

(b) Special end fittings are provided for hoses used for pumping of hydrocarbons from wagons to storage tanks.

6. SIZES : 25 mm to 300 mm I. D.

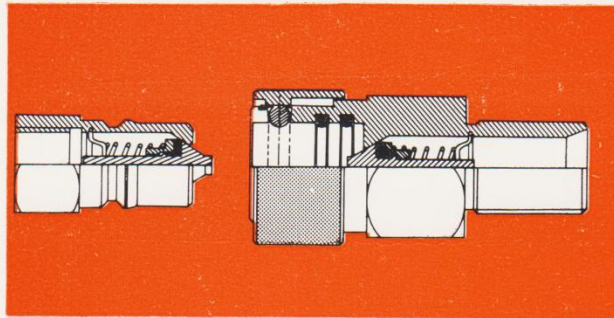
7. WORKING INFORMATION

I. D	mm	25	30	38	50	63	75	88	100	112	125	150	175	200	250	300
	Inches	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	10	12
Bend Radius		11	12	12	16	19.5	21	22	23	29	35	39	41	55	59	67
Working pressure in p s i.		250	150	150	100	100	100	100	100	100	100	100	50	50	25	25
Max. test pressure in p s i.		375	225	225	150	150	150	150	150	150	150	150	75	75	50	50



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QUICK RELEASE COUPLINGS



WHAT IS A QUICK RELEASE COUPLING ?

A quick release coupling is a mechanical device to connect and disconnect hydraulic, pneumatic and general purpose lines.

The essential parts are automatically operating valves in their respective housings. Quick release couplings once installed have the following advantages.

- (a) They provide fast leak proof positive joints in seconds without any tool.
- (b) No bleeding of systems is required.
- (c) So many extra components such as bleeder valves, relief valves and check valves are eliminated.
- (d) Possibility of air, dirt and moisture trapping is minimised as the valves operate automatically in seconds.
- (e) They save time in replacement of components connecting external fluid pressure supply for fitting and isolating a trouble making circuit.

They are available in three different types.

(A) Type "A".

It is with self sealing valve at the coupler and with through adaptor. Seal-nitrile rubber. Max. working temperature 80°C.

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Material : Mild steel cadmium plated, Brass and Stainless steel.

Sr. No.	SIZE in inches	End connections coupler & adaptor	Max. Working Pressure in psi.
1.	$\frac{1}{8}$	BSP MALE	1000
2.	$\frac{1}{4}$	BSP MALE	800
3.	$\frac{3}{8}$	BSP MALE	800
4.	$\frac{1}{2}$	BSP MALE	500
5.	$\frac{3}{4}$	BSP FEMALE	400
6.	1	BSP FEMALE	300
7.	$1\frac{1}{2}$	BSP FEMALE	300

(B) **Type : "B"**.

It is a through adaptor and through coupler. (No self sealing valves.) Max. working temperature 80°C.

Material : Mild steel cadmium plated, Brass and Stainless steel.

Sr. No.	SIZE in inches	End connections coupler & adaptor	Max. Working Pressure in psi.
1.	$\frac{1}{8}$	BSP MALE	500
2.	$\frac{1}{4}$	BSP MALE	500
3.	$\frac{3}{8}$	BSP MALE	500
4.	$\frac{1}{2}$	BSP MALE	500
5.	$\frac{3}{4}$	BSP FEMALE	500
6.	1	BSP FEMALE	500
7.	$1\frac{1}{2}$	BSP FEMALE	500

(C) **Type : "C"**.

It is a high pressure hydraulic coupling in single piece construction with single action locking arrangement (Push Pull Type) with self sealing valves at both couplers & adaptor. Seal material : Nitrile rubber. Maximum working temperature 80°C.

Material : Hardened alloy steel duly cadmium plated.

Sr. No.	SIZE in inches	End connections coupler & adaptor	Max. Working Pressure in psi.
1.	$\frac{1}{4}$	BSP FEMALE	3000
2.	$\frac{3}{8}$	BSP FEMALE	3000
3.	$\frac{1}{2}$	BSP FEMALE	3000
4.	$\frac{3}{4}$	BSP FEMALE	2500
5.	1	BSP FEMALE	2500



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COMPRESSION TYPE END FITTINGS

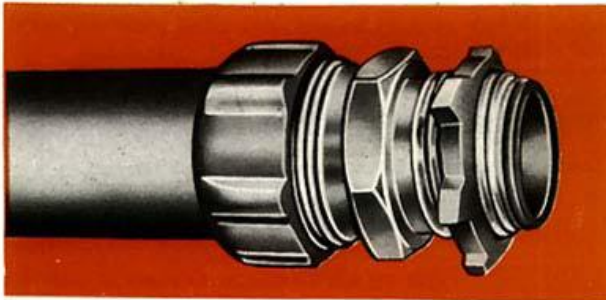
for EC - wire braided, EC - PVC, APC - PVC & MPM - PVC type of tubings



End connector - 90° bend.



End connector - 60° bend.



Assembly of straight end connector with tubing

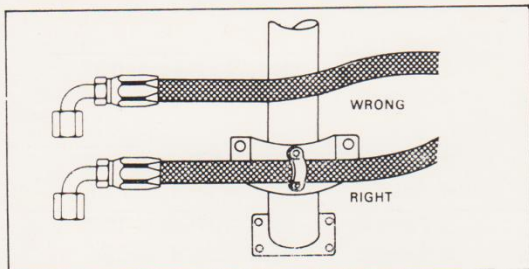
Exploded view of straight end connector.



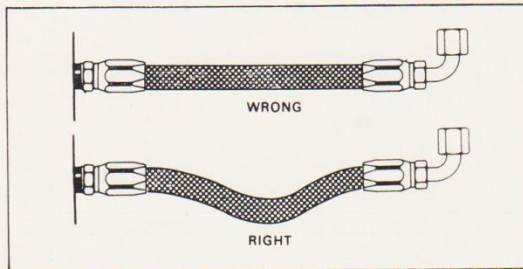


INSTALLATION GUIDE

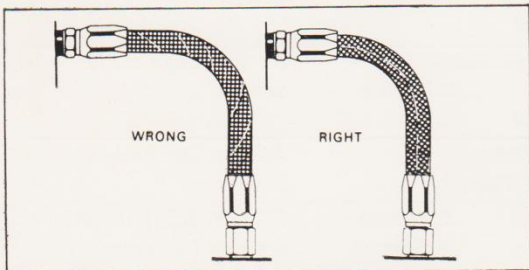
for SUPERFLEXIBLE WIRE BRAIDED, RUBBER and TEFLON tubing



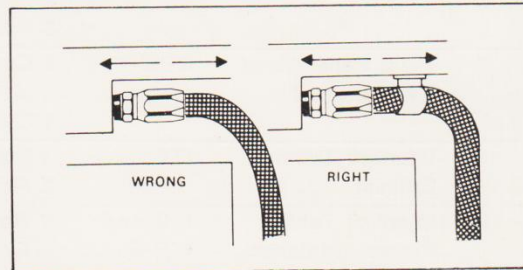
1. Keep hoses away from heat - clamping necessary.



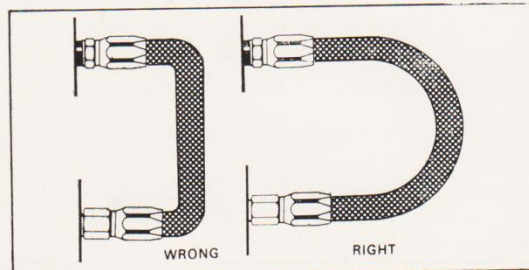
2. Keep enough slack in the hose to prevent straining. Changes in length under pressure vary from +2% to -4%.



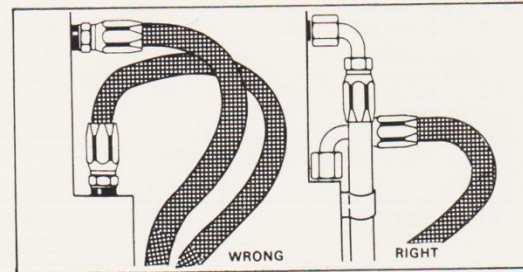
3. Twisting of hose can cause failure or loosening of connections.



4. Clamp hoses on moving parts.



5. Keep large bend radii to avoid restriction of flow and danger of collapsing.



6. Use elbows and nipples in the lines to relieve strain on the assembly. Bends should be provided with elbows.



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END FITTINGS

Sr. No.	Tube Type	Symbol	End fitting type		Specification
1	Electrical Conduit Unpacked	EC	1 Male 3 Flange	2 Female 4 Special	IS 4649 - 1968 BS 731 Part 1 - 1952 Customer's design
2	Electrical Conduit Wire Braided	EC-Wire Braided	1 Male 3 Flange 5 Compression	2 Female 4 Special	BS 731 Part 1-1952 Customer's design
3	Electrical Conduit PVC Covered	EC-PVC	1 Male 3 Flange 5 Compression	2 Female 4 Special	BS 731 Part 1-1952 Customer's design
4	Asbestos Packed Conduit	APC	1 Male 3 Flange	2 Female 4 Special	BS 731 Part 1-1952 Customer's design
5	Asbestos Packed Conduit-PVC Covered	APC-PVC	1 Male 3 Flange 5 Compression	2 Female 4 Special	BS 731 Part 1 -1952 Customer's design
6	Metal Paper Metal	MPM	1 Straight Connector 2 End Connectors 3 Special		As per Customer's design
7	Metal Paper Metal PVC Covered	MPM-PVC	1 Compression 2 Male 4 Special	3 Female	As per Customer's design
8	Interlock Tubing Exhaust	ITE	1 Couplers 2 Angle Flanges		As per Customer's design
9	Interlock Tubing Pressure, Interlock Tubing Pressure-S	ITP and ITP-S	1 Male 3 Flange	2 Female 4 Special	IS, JIS, BS, DIN, ASA, As per Customer's design
10	M-lock Asbestos Packed	ML	1 Couplers 3 Special	2 Flanges	As per Customer's design
11	Interlock Tubing Ducting	ITD	1 Flange 3 Special	2 Couplers	As per Customer's design
12	Ribbed Asbestos Packed	RAP	1 Flange 3 Special	2 Couplers	As per Customer's design
13	Rectangular Tubing	Rectangular	1 Special		As per Customer's design
14	Spiral Tubing	SPIRO	1 Flange 2 Special		As per Customer's design
15	Superflexible Wire Braided	Ultraflex	1 Male 3 Long nipples 4 Flange	2 Female 5 Special	IS, JIS, BS, DIN, ASA, Customer's design
16	Teflon and Rubber Wire Braided Hoses	Teflon ALLZAFLEX R1 to R11	1 Male 3 Long nipples 4 Flange	2 Female 5 Special	IS, JIS, BS, DIN, ASA, Customer's design