

INTRODUCTION

We thank you for your interest in our range of products and services and hope that you find this catalogue helpful.

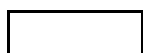
We have tried to list as much relevant information as possible, but should you find that your particular requirements are not listed, then please contact our sales office who will be pleased to help.

This catalogue is one of a set and should you require others in the series, please do not hesitate to call.

Whilst every effort is made to ensure that the information is accurate and correct, the conditions under which Portmere Rubber products are used are beyond our control and therefore our recommendations are made without warranty or guarantee. Portmere Rubber reserve the right to change specifications without prior notice.

We shall be pleased to accept your enquiry or order, whether large or small. Orders over any distance will be met from our two factories in the south of England.

Key to items listed.



Normally stock items.



Non-stock items M.O.Q. may apply.

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Catalogue 1

PVC HOSES AND TUBING

SECTION 1

Unreinforced PVC Tubing	1.	1.	1
Reinforced PVC Tubing.	1.	1.	2
Light Duty PVC Suction / Delivery Hose	1.	1.	3
Light Duty PVC Suction / Delivery Hose	1.	1.	4
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Heavy Duty PVC Suction / Delivery Hose	1.	1.	6
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Oil Resistant Suction / Delivery Hose.	1.	1.	8
Aperspir / Springvin PVC Suction / Delivery Hose.	1.	1.	9
PVC Layflat Water Discharge Hose.	1.	1.	10
Tricoflex.	1.	1.	11
Thermoplastic Marine Sanitation Hose.	1.	1.	12

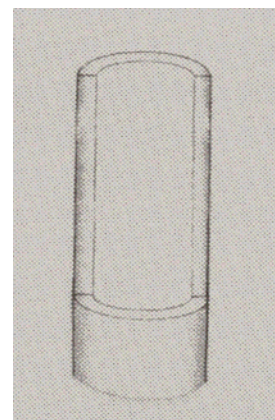
UNREINFORCED PVC TUBING

1-1-1

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NB21 0315	3	1.5	N/A	48	30
NB21 0515	5	1.5	N/A	64	30
NB21 0615	6	1.5	N/A	72	30
NB21 0630	6	3.0	N/A	96	30
NB21 0815	8	1.5	N/A	88	30
NB21 0830	8	3.0	N/A	112	30
NB21 0915	9	1.5	N/A	96	30
NB21 1030	10	3.0	N/A	120	30
NB21 1215	12	1.5	N/A	120	30
NB21 1330	13	3.0	N/A	152	30
NB21 1630	16	3.0	N/A	176	30
NB21 1930	19	3.0	N/A	200	30
NB21 2230	22	3.0	N/A	224	30
NB21 2530	25	3.0	N/A	248	30
NB21 3230	32	3.0	N/A	304	30
NB21 3245	32	4.5	N/A	328	30
NB21 3845	38	4.5	N/A	376	30
NB21 4545	45	4.5	N/A	432	30
NB21 5045	50	6.0	N/A	472	30

Construction

Tube: PVC.



Temperature Range -	-20°C to +55°C.
Pressure -	Not recommended for pressure applications.
Colour -	Clear. Various colours available subject to minimum order quantity.
Applications -	Food and Beverage delivery (FDA approved), Laboratory, Medical, Drain hose.
Chemical Resistance -	Resistant to most oxidising and reducing agents and alkalis. For details see Technical Data Section.
Additional Information -	Cut lengths available on all of the above.

1-1-2

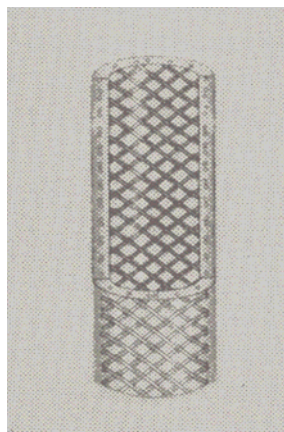
REINFORCED PVC TUBING

Construction

Tube: PVC.

Reinf: Polyester
Fibre Yarn.

Outer: PVC



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NC21 0325	3	2.5	31	51	30
NC21 0425	4	2.5	25	51	30
NC21 0525	5	2.5	20	63	30
NC21 06325	6.3	2.5	17	76	30
NC21 0825	8	2.5	16	102	30
NC21 1030	10	3.0	16	114	30
NC21 12530	12.5	3.0	14	140	30
NC21 1635	16	3.5	11	180	30
NC21 1935	19	3.5	9	203	30
NC21 2540	25	4.0	7	229	30
NC21 3250	32	5.0	5	267	30
NC21 3850	38	5.0	4	317	30
NC21 5070	50	7.0	3	406	30

Temperature Range -

-20°C to +55°C.

Pressure -

Safety factor 3:1 at 20°C.

Colour -

Clear & Black. Various colours available subject to M.O.Q., prices on request

Applications -

Food and Beverage delivery (FDA approved), Air supplies, Pneumatics and Hydraulics, Water, Chemical and Material Feeds.

Chemical Resistance -

Resistant to most oxidising and reducing agents and alkalis.
For details see Technical Data Section.

Additional Information -

Cut lengths available on all stock sizes.

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF11 12528	12.5	2.8	9	35	30
NF11 1932	19	3.2	8	55	30
NF11 2538	25	3.8	7	100	30
NF11 3238	32	3.8	7	115	30
NF11 3838	38	3.8	6	150	30
NF11 5141	51	4.1	5	225	30
NF11 6343	63	4.3	4	240	30
NF11 7649	76	4.9	4	265	30
NF11 10256	102	5.6	3	330	30

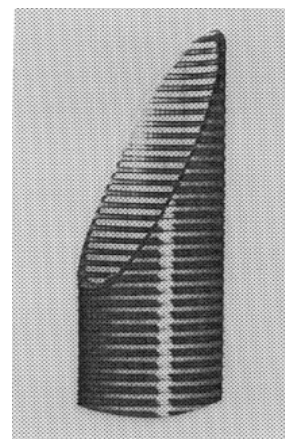
Construction

Tube: PVC.

Reinf: Rigid PVC

Spiral.

Outer: PVC.



Temperature Range - -15°C to +65°C.

Pressure - Safety factor 3:1 at 20°C.

Vacuum - 570mm Hg = 75% at 20°C.

Colour - Translucent Green.

Applications - Marine and Horticultural Industries, Delivery and Light suction of Water and Slurry.

Chemical Resistance - Resistant to most oxidising and reducing agents and diluted acids and alkalis.
For details see Technical Data Section.

Additional Information - Cut lengths available on all stock sizes.

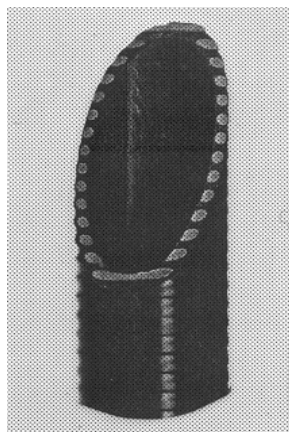
Construction

Tube: PVC.

Reinf: Rigid PVC

Spiral.

Outer: PVC.



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF13 12528	12.5	2.8	9	35	30
NF13 1632	16	3.2	8	45	30
NF13 1932	19	3.2	8	55	30
NF13 2538	25	3.8	7	100	30
NF13 3238	32	3.8	7	115	30
NF13 3838	38	3.8	6	150	30
NF13 4138	41	3.8	5	210	30
NF13 5141	51	4.1	5	225	30
NF13 6343	63	4.3	4	240	30
NF13 7649	76	4.9	4	265	30
NF13 10256	102	5.6	3	330	30

Temperature Range - -15°C to +65°C.

Pressure - Safety factor 3:1 at 20°C.

Vacuum - 570mm Hg = 75% at 20°C.

Colour - Black.

Applications - Marine and Horticultural Industries, Delivery and Light suction of Water and Slurry.

Chemical Resistance - Resistant to most oxidising and reducing agents.
For details see Technical Data Section.

Additional Information - Cut lengths available on all stock sizes.

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF21 2540	25	4.0	8	125	30
NF21 3240	32	4.0	7	150	30
NF21 3840	38	4.0	6	175	30
NF21 5145	51	4.5	6	225	30
NF21 6350	63	5.0	5	305	30
NF21 7655	76	5.5	4	355	30
NF21 8955	89	5.5	4	375	30
NF21 10265	102	6.5	4	430	30
NF21 12770	127	7.0	3	500	30
NF21 15280	152	8.0	3	760	30

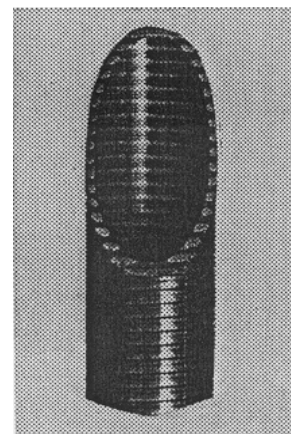
Construction

Tube: PVC.

Reinf: Rigid PVC

Spiral.

Outer: PVC



Temperature Range -

-15°C to +65°C.

Pressure -

Safety factor 3:1 at 20°C.

Vacuum -

680mm Hg = 90% at 20°C.

Colour -

Olive Green.

Applications -

Pumping and Suction applications in Agriculture, Industry and Construction.

Chemical Resistance -

Resistant to most oxidising and reducing agents and diluted acids.
For details see Technical Data Section.

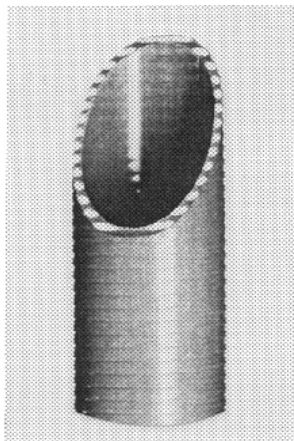
Construction

Tube: PVC.

Reinf: Rigid PVC

Spiral.

Outer: PVC



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF31 2545	25	4.5	13	160	30
NF31 3245	32	4.5	10	200	30
NF31 3850	38	5.0	8	225	30
NF31 5155	51	5.5	7	255	30
NF31 6360	63	6.0	6	300	30
NF31 7665	76	6.5	6	355	30
NF31 8970	89	7.0	5	375	30
NF31 10275	102	7.5	4	400	30
NF31 12785	127	8.5	4	625	30
NF31 14090	140	9.0	4	750	30
NF31 15210	152	10.0	4	975	30

Temperature Range -

-15°C to +65°C.

Pressure -

Safety factor 3:1 at 20°C.

Vacuum -

711mm Hg = 94% at 20°C.

Colour -

Dark Green, silver grey and grey.

Applications -

Heavy Duty Suction for Agriculture, Industry and Construction.

Chemical Resistance -Resistant to most oxidising and reducing agents and diluted acids.
For details see Technical Data Section.**Additional Information -**

Minimum order quantity may apply.

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF41 2531	25	3.1	7	100	30
NF41 3234	32	3.4	6	115	30
NF41 3836	38	3.6	5	150	30
NF41 5141	51	4.1	3.6	255	30
NF41 6345	63	4.5	3	300	30
NF41 7650	76	5.0	3	355	30
NF41 10258	102	5.8	2.9	400	30

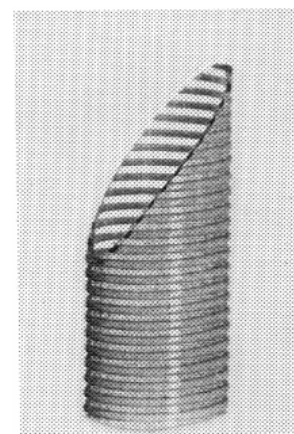
Construction

Tube: PVC.

Reinf: Rigid PVC

Spiral.

Outer: PVC



Temperature Range -	-15°C to +65°C.
Pressure -	Safety factor 3:1 at 20°C.
Vacuum -	570mm Hg = 75% at 20°C.
Colour -	Clear with White Spiral.
Applications -	Suction and Delivery of Liquids, Solids and Water in the Food Industry.
Chemical Resistance -	Resistant to most oxidising and reducing agents and diluted acids and alkalis. For details see Technical Data Section.
Additional Information -	Cut lengths available on all stock sizes.

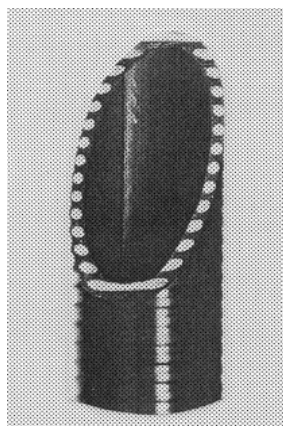
Construction

Tube: PVC Nitrile

Reinf: Rigid PVC

Spiral.

Outer: PVC Nitrile.



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF51 1938	19	3.8	7	90	30
NF51 2538	25	3.8	7	100	30
NF51 3238	32	3.8	7	115	30
NF51 3838	38	3.8	6	150	30
NF51 5155	51	5.5	7	255	30
NF51 6360	63	6.0	6	300	30
NF51 7665	76	6.5	5	355	30
NF51 10275	102	7.5	5	400	30

Temperature Range -	-20°C to +60°C.
Pressure -	Safety factor 3:1 at 20°C.
Vacuum -	711mm Hg = 94% at 20°C.
Colour -	Blue.
Applications -	Suction and Delivery of Black Fuel Oils, Gas and Oil with a Low Aromatic content, Kerosene, Paraffin, Diesel Oil, Lubricating Oils, Greases and Talloils.
Chemical Resistance -	Resistant to Oils and Greases as above. Not suitable for Benzene, Petrol, Spirits, Xylol Toluol, or Aromatics. For details see Technical Data Section.
Additional Information -	Cut lengths available on all stock sizes.

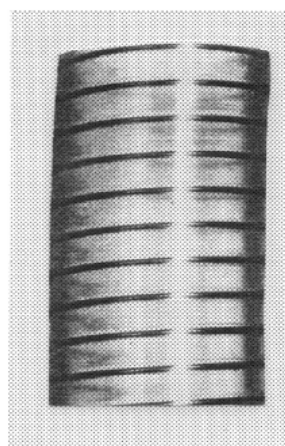
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NC32 1231	12	3.1	15	30	50
NC32 1634	16	3.4	15	30	50
NC32 1935	19	3.5	12	40	50
NC32 2542	25	4.2	11	50	50
NC32 3246	32	4.6	9.5	60	50
NC32 3845	38	4.5	8	80	50
NC32 4550	45	5.0	7.5	90	50
NC32 5154	51	5.4	7	100	50
NC32 6355	63	5.5	6	130	30

Construction

Tube: PVC

Reinf: Harmonic
Steel Wire

Outer: PVC



Temperature Range -	-10°C to +60°C.
Pressure -	Safety factor 3:1 at 20°C.
Vacuum -	600mm Hg.
Colour -	Clear with Harmonic Steel Wire.
Applications -	Suction and Delivery of Liquid Foodstuffs, Water, Slurry, Chemicals, Sewage, Granules etc..
Chemical Resistance -	Resistant to most oxidising and reducing acids and alkalis. For details see Technical Data Section.
Additional Information -	Cut lengths available on all of the above.

Construction

Tube: PVC

Reinf: Closely

Woven Yarn.

Outer: PVC



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NE25 2518	25	1.8	6	N/A	100
NE25 3218	32	1.8	6	N/A	100
NE25 3818	38	1.8	6	N/A	100
NE25 5118	51	1.8	6	N/A	100
NE25 63519	63.5	1.9	6	N/A	100
NE25 7619	76	1.9	6	N/A	100
NE25 10220	102	2.0	6	N/A	100

Temperature Range -

-15°C to +55°C.

Pressure -

Safety factor 3:1 at 20°C.

Colour -

Yellow Outer, Black Inner.

Applications -

Conveyance and Discharge of Water, and other Liquids.

Chemical Resistance -Resistant to most oxidising and reducing agents and diluted acids and alkalis.
For details see Technical Data Section.**Additional Information -**

Cut lengths available on all of the above.

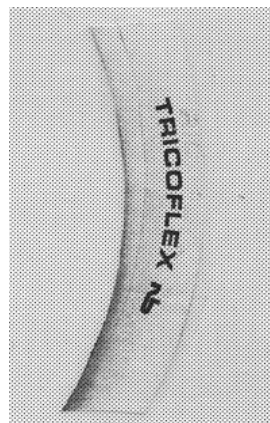
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
ND21 125	12.5		10		25/50/100
ND21 15	15		10		25/50/100
ND21 19	19		10		25/50/100
ND21 25	25		10		25/50/100
ND21 30	30		10		25/50/100
ND21 35	35		10		25/50/100
ND21 40	40		10		25/50
ND21 50	50		10		25/50

Construction

Tube: PVC

Reinf: Yarn

Outer: PVC



Temperature Range -	-15°C to +55°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Yellow.
Applications -	Water Delivery, Particularly to Irrigation.
Chemical Resistance -	Resistant to most oxidising and reducing agents and diluted acids and alkalis. For details see Technical Data Section.
Additional Information -	Available in full coils only.

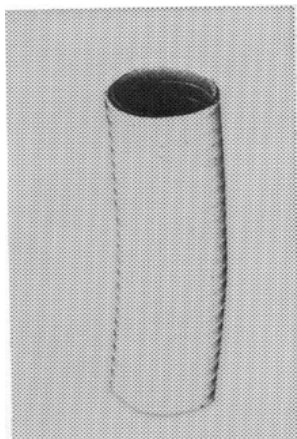
Construction

Tube: TPE

Reinf: PVC

Rigid Spiral

Outer: TPE



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NF14 1932	19	3.2	6	35	30
NF14 2538	25	3.8	5	40	30
NF14 3238	32	3.8	4.5	50	30
NF14 3838	38	3.8	4	60	30
NF14 5141	51	4.1	3	90	30

Temperature Range -

-20°C to +100°C.

Pressure -

Safety factor 3:1 at 20°C.

Vacuum -

570mm Hg = 75% at 20°C.

Colour -

White.

Applications -

Low Odour Permeability hose for carrying products which have an odour problem.
i.e. Marine Toilets.

Chemical Resistance -

Resistant to most oxidising and reducing agents and diluted acids and alkalis, also sewage and seawater. Fair for deisel and oils. Excellent U/V resistance.
For details see Technical Data Section.

Additional Information -

Cut lengths available on all stock sizes.

RUBBER HOSES

SECTION 2

	cat	sect	pge
Air Hose	1.	2.	1
Oxy - Acetylene Hose	1.	2.	2
Radiator Hoses	1.	2.	3
90° Rubber Elbows	1.	2.	4
Convolutd Radiator Hoses	1.	2.	5
Car Heater Hose	1.	2.	6
Type 23 Water Delivery Hose	1.	2.	7
Bevera 10 Water Suction / Delivery Hose	1.	2.	8
Kellermeister Food Quality Delivery Hose	1.	2.	9
Unimilch - Milk & Dairy Steam / Hot Water Hose	1.	2.	10
Sempersteam Steam / Hot Water Hose	1.	2.	11
Fuel Hose with External Braid	1.	2.	12
Fuel Hose	1.	2.	13
Petrol Oil & Air Hose	1.	2.	14
Carbocord Oil Delivery Hose	1.	2.	15
Type 605 Oil / Suction / Delivery Hose	1.	2.	16
Sterngland	1.	2.	17
Seaking Marine Diesel Exhaust Hose	1.	2.	18
Carbopress Fuel Hose to EN ISO 7840	1.	2.	19

AIR HOSE

1-2-1

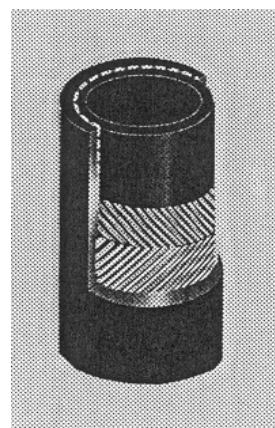
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PB21 0635	6	3.5	15	40	100
PB21 0835	8	3.5	15	50	100
PB21 1035	10	3.5	15	60	100
PB21 1340	13	4	15	80	100
PB21 1650	16	5	15	100	100
PB21 1950	19	5	15	130	100
PB21 2550	25	5	15	160	100

Construction

Tube: SBR

Reinf: Yarn

Outer: SBR/EPDM



Temperature Range -	-20°C to +80°C.
Pressure -	Safety Factor 3:1 at 20°C.
Colour -	Black.
Applications -	Delivery of compressed air, water and non aggressive fluids.
Chemical Resistance -	Resistant to traces of oil mist. For details see Technical Data Section.
Additional Information -	Cut lengths available on all of the above.

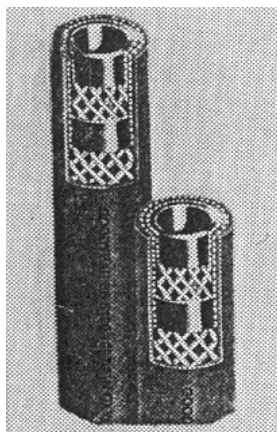
Construction

Tube: SBR

Reinf: Synthetic

Yarn.

Outer: SBR



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PD11 0535	5	3.5	20	30	100
PD11 6343	6.3	4.3	20	40	100
PD11 0843	8	4.3	20	50	100
PD11 1043	10	4.3	20	60	100

Temperature Range -

-25°C to +80°C.

Pressure -

Safety Factor 3:1 at 20°C.

Colour -

Blue (Oxygen) Red (Acetylene).

Applications -For delivery of oxygen and acetylene gas.
To BS 5120/1987 A-N.**Chemical Resistance -**

For details see Technical Data Section.

Additional Information -

Cut lengths available on all of the above.

RADIATOR HOSES

1-2-3

Product Code	I.D. MM	Wall MM	Working Pressure Bar	Bend Radius MM	Length Metres
PE61 1330	13	3	10	N/A	1
PE61 1635	16	3.5	10	N/A	1
PE61 1935	19	3.5	7	N/A	1
PE61 2235	22	3.5	7	N/A	1
PE61 2535	25	3.5	6	N/A	1
PE61 2835	28	3.5	5	N/A	1
PE61 3040	30	4	5	N/A	1
PE61 3240	32	4	5	N/A	1
PE61 3540	35	4	5	N/A	1
PE61 3840	38	4	4	N/A	1
PE61 4040	40	4	4	N/A	1
PE61 4240	42	4	4	N/A	1
PE61 4545	45	4.5	4	N/A	1
PE61 4845	48	4.5	4	N/A	1
PE61 5145	51	4.5	3	N/A	1
PE61 5445	54	4.5	3	N/A	1
PE61 5850	58	5	5	N/A	1
PE61 6050	60	5	5	N/A	1
PE61 6350	63	5	5	N/A	1
PE61 7050	70	5	4	N/A	1
PE61 7350	73	5	4	N/A	1
PE61 7650	76	5	4	N/A	1
PE61 88950	88.9	5	3	N/A	1
PE61 10250	102	5	3	N/A	1

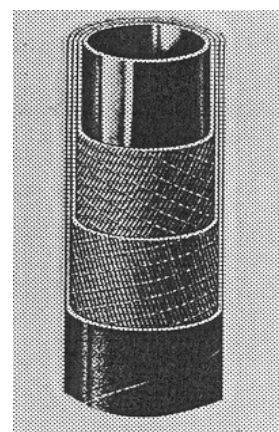
Construction

Tube: SBR

Reinf: Synthetic

Cord.

Outer: SBR



Temperature Range - -35°C to +95°C.

Pressure - Safety factor 3:1.

Colour - Black.

Applications - Coolant hoses for use with combustion engines.

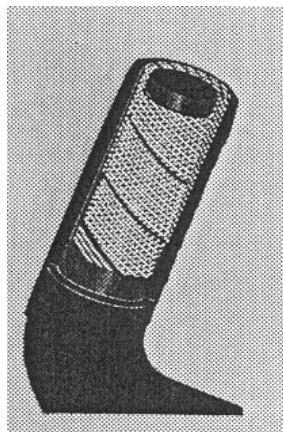
Chemical Resistance - Resistant against hot water and anti-freeze agents.
For details see Technical Data Section.

Construction

Tube: SBR

Reinf: Synthetic

Outer: SBR



Product Code	I.D. INCHES	Wall INCHES	Working Pressure at 20°C Bar	Bend Radius MM	Leg Length INCHES
PE65 1250	1/2	3/16	3	N/A	4
PE65 1650	5/8	3/16	3	N/A	4
PE65 1950	3/4	3/16	3	N/A	4
PE65 2250	7/8	3/16	3	N/A	4
PE65 2550	1	3/16	3	N/A	4
PE65 2850	1.1/8	3/16	3	N/A	4
PE65 3250	1.1/4	3/16	3	N/A	4
PE65 3850	1.1/2	3/16	3	N/A	4
PE65 4550	1.3/4	3/16	3	N/A	4
PE65 5150	2	3/16	3	N/A	4
PE65 5850	2.1/4	3/16	3	N/A	4
PE65 6350	2.1/2	3/16	3	N/A	4
PE65 7650	3	3/16	3	N/A	4

Temperature Range - -35°C to +95°C.

Pressure - Safety factor 3:1.

Colour - Black.

Applications - Coolant hoses for use with combustion engines.

Chemical Resistance - Resistant against hot water and anti-freeze agents.
For details see Technical Data Section.

Additional Information - Longer leg lengths available to order.

N.B - ALSO AVAILABLE WITH NITRILE LINING.

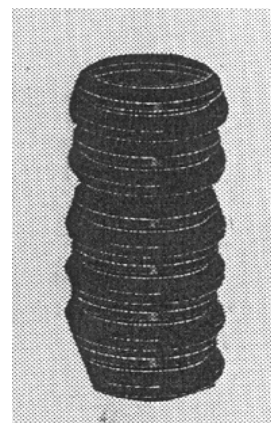
CONVOLUTED RADIATOR HOSES

1-2-5

Product Code	Size Code	Size Range	Working Pressure at 20°C Bar	Bend Radius MM	Length Metres
PE62 19	TR 19	13-22	N/A	N/A	1.07
PE62 25	TR 25	22-29	N/A	N/A	1.07
PE62 31	TR 31	29-33	N/A	N/A	1.07
PE62 33	TR 33	32-35	N/A	N/A	1.07
PE62 37	TR 37	35-41	N/A	N/A	1.07
PE62 44	TR 44	41-48	N/A	N/A	1.07
PE62 55	TR 55	51-59	N/A	N/A	1.07

Construction

Tube: SBR



Temperature Range - -35°C to +95°C.

Colour - Black.

Applications - Flexible coolant hoses for use with combustion engines.

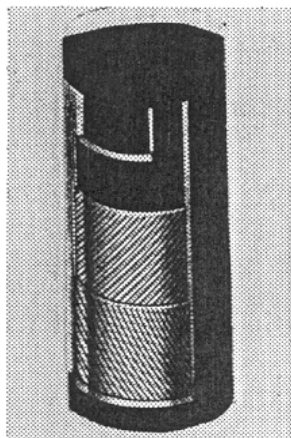
Chemical Resistance - Resistant against hot water and anti-freeze agents.
For details see Technical Data Section.

Construction

Tube: SBR

Reinf: Synthetic
Cord

Outer: SBR



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PE51 1340	13	4	N/A	80	20
PE51 1640	16	4	N/A	100	20
PE51 1950	19	5	N/A	130	20

Temperature Range -	-35°C to +95°C.
Colour -	Black.
Applications -	Heater hose for use with combustion engines.
Chemical Resistance -	Resistant against hot water and anti-freeze agents. For details see Technical Data Section.
Additional Information -	Cut lengths available on all of the above.

TYPE 23 WATER DELIVERY HOSE

1-2-7

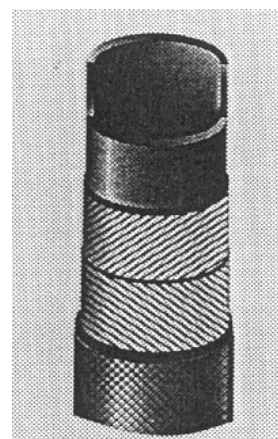
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PE31 1350	13	3	10		40
PE31 1650	16	3.5	10		40
PE31 1955	19	5	10		40
PE31 2550	25	5	10		40
PE31 3245	32	5	10		40
PE31 3850	38	5	10		40
PE31 5145	51	5	10		40
PE31 6350	63.5	5	10		40
PE31 7060	70	5	10		40
PE31 7650	76	5.5	10		40
PE31 9050	90	5	10		40
PE31 10250	102	5	10		40
PE31 11460	114	6	10		40
PE31 12770	127	7	10		40
PE31 14070	140	7	10		40

Construction

Tube: SBR

Reinf: Textile yarn

Outer: SBR



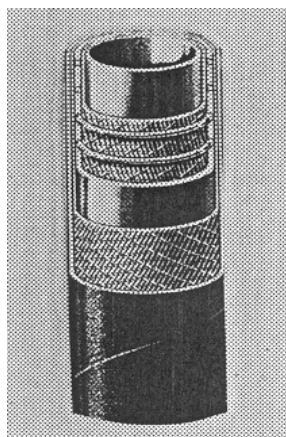
Temperature Range -	-30°C to +70°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Black.
Applications -	For delivery of water.
Chemical Resistance -	For details see Technical Data Section.
Additional Information -	Cut lengths available on all stock items. E.P.D.M. liner for higher working temperatures available on request.

Construction

Tube: SBR

Reinf: Textile yarn
and steel spiral.

Outer: SBR



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PE46 2550	25	5	10	150	40
PE46 3250	32	5	10	200	40
PE46 3850	38	5	10	220	40
PE46 4050	40	5	10	230	40
PE46 4550	45	5	10	275	40
PE46 5150	51	5	10	300	40
PE46 6055	60	5.5	10	350	40
PE46 63555	63.5	5.5	10	370	40
PE46 7055	70	5.5	10	410	40
PE46 7655	76	5.5	10	450	40
PE46 8060	80	6	10	485	40
PE46 9065	90	6.5	10	550	40
PE46 10270	102	7	10	600	40

Temperature Range - -35°C to +70°C.**Pressure -** Safety factor 3:1 at 20°C.**Vacuum -** 0.8 Bar.**Colour -** Black.**Applications -** Heavy duty section/delivery of water, muddy liquids and abrasive particles.**Chemical Resistance -** Resistant to low concentration acids or alkaline solutions and non corrosive fluids. For details see Technical Data Section.**Additional Information -** Cut lengths available on all stock sizes.

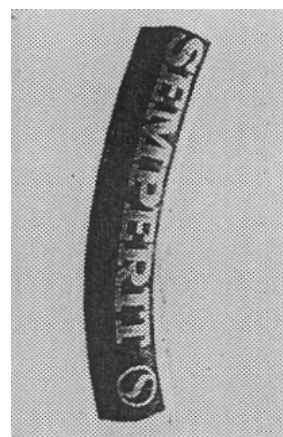
Product Code	I.D. MM	Wall MM	Working Pressure Bar	Bend Radius MM	Coil Length Metres
PL11 1350	13	5	12	50	40
PL11 1950	19	5	12	75	40
PL11 2560	25	6	12	100	40
PL11 3280	32	8	12	130	40
PL11 3890	38	9	12	150	40
PL11 4010	40	10	12	160	40
PL11 5011	50	11	12	200	40
PL11 6512	65	12	12	330	40
PL11 7515	75	15	12	400	40
PL11 8015	80	15	12	450	40
PL11 10015	100	15	12	600	40

Construction

Tube: F/Q Natural

Reinf: Textile

Outer: Natural/SBR



Temperature Range -

-35°C to +80°C (Occasional steam sterilisation to +120°C).

Pressure -

Safety factor 3:1 at 20°C.

Colour -

Red outer, white inner.

Applications -

Suction and delivery hose for use within the brewery, food and beverage industry.

Chemical Resistance -

Resistant to most foodstuffs, alcohol and fruit juices. For details see Technical Data Section.

Additional Information -

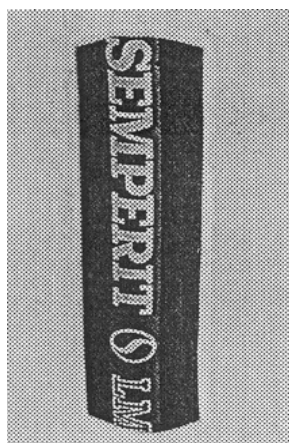
Cut lengths available on 19, 25, 38 & 50mm.

Construction

Tube: F/Q Natural

Reinf: Textile

Outer: Nitrile



Product Code	I.D. MM	Wall MM	Working Pressure at 95°C Bar	Bend Radius MM	Coil Length Metres
PI11 1350	13	5	18	80	40
PI11 1650	16	5	18	95	40
PI11 1960	19	6	18	115	40
PI11 2570	25	7	18	150	40
PI11 3270	32	7	18	195	40
PI11 3890	38	9	18	230	40
PI11 4090	40	9	18	240	40
PI11 4590	45	9	18	280	40
PI11 5010	50	10	18	300	40
PI11 7512	75	12	18	450	40

Temperature Range -

-35°C to + 95°C Hot water.

Pressure -

Working pressure saturated steam

164°C = 6bar.

Safety factor 3:1 at 95°C.

Colour -

Blue outer, white inner.

Applications -

Suction and delivery hose for use within dairy, food and beverage industry.

Chemical Resistance -

Resistant to most dairy foodstuffs.

For details see Technical Data Section.

Additional Information -

Cut lengths available on all stock items.

Product Code	I.D. MM	Wall MM	Working Pressure Bar	Bend Radius MM	Length Metres
PL21 1350	13	5	10/30	130	40
PL21 1960	19	6	10/30	190	40
PL21 2565	25	6.5	10/30	250	40
PL21 3270	32	7	10/30	320	40
PL21 3870	38	7	10/30	380	40
PL21 5080	50	8	10/30	500	40

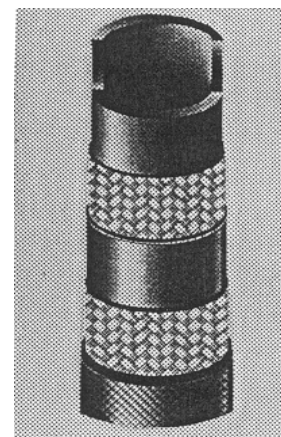
Construction

Tube : EPDM

Reinf: Steel

Wire

Outer: EPDM



Temperature Range - +95°C (Hot water)+185°C (Saturated steam).

Pressure - Working pressure 10/30 (Steam/Hot water).
Safety factor 3:1.

Colour - Black.

Applications - For conveyance of saturated steam and hot water.

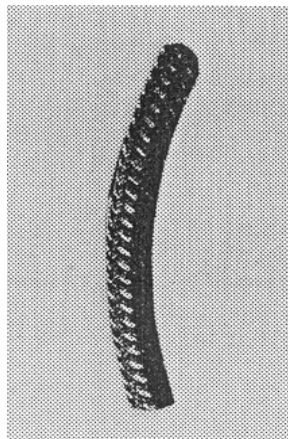
Chemical Resistance - For details see Technical Data Section.

Additional Information - Cut lengths available on 13, 19, 25 & 38mm.

Construction

Tube: Nitrile

Outer: Textile.



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PG10 0320B	3	2	10		15
PG10 0420B	4	2	10		15
PG10 0525B	5	2.5	10		15
PG10 0625B	6	2.5	10		15
PG10 0635B	6	3.5	10		15
PG10 0735B	7	2.5	10		15
PG10 0730B	7	3	10		15
PG10 07535B	7.5	3.5	10		15
PG10 0825B	8	2.5	10		15
PG10 0925B	9	2.5	10		15
PG10 1025B	10	2.5	10		15
PG10 1030B	10	3	10		15
PG10 1125B	11	2.5	10		15
PG10 1235B	12	3.5	10		15

Temperature Range -

-35°C to +80°C .

Pressure -

Safety factor 3:1 at 20°C.

Colour -

Black or black/green textile.

Applications -

Fuel supply lines. Suitable for conventional, leadfree and diesel fuels.

Chemical Resistance -Resistant to most fuels.
For details see Technical Data Section.**Additional Information -**

Cut lengths available on stock items.

FUEL HOSE

1-2-13

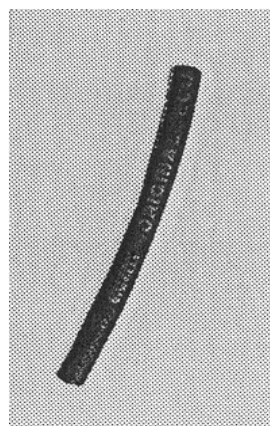
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PG10 0425	4	2.5	10		15
PG10 0525	5	2.5	10		15
PG10 0635	6	3.5	10		15
PG10 0730	7	3	10		15
PG10 07532	7.5	3	10		15
PG10 1030	10	3	10		15

Construction

Tube: Nitrile

Reinf: Textile

Outer: Nitrile



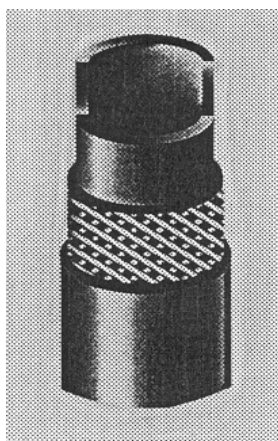
Temperature Range -	-35°C to +80°C .
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Black.
Applications -	Fuel supply lines. Suitable for conventional, leadfree and diesel fuels.
Chemical Resistance -	Resistant to most fuels. For details see Technical Data Section.
Additional Information -	Cut lengths available on all stock items.

Construction

Tube: Nitrile

Reinf: Textile

Outer: Neoprene



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PG11 0540	5	4	25	30	100
PG11 0640	6	4	25	40	100
PG11 0840	8	4	25	50	100
PG11 1040	10	4	25	60	36-44
PG11 1340	13	4	25	80	36-44
PG11 1645	16	4.5	25	100	36-44
PG11 1960	19	6	25	120	36-44
PG11 2560	25	6	25	150	36-44

Temperature Range - -35°C to +80°C .

Pressure - Safety factor 3:1 at 20°C.

Colour - Black.

Applications - Industrial, fuel and diesel oils, petrol, compressed air and water.

Chemical Resistance - Resistant to most oils and petrols.
For details see Technical Data Section.

Additional Information - Cut lengths available on all of the above.

CARBOCORD OIL & PETROL DELIVERY HOSE TO EN12115

1-2-15

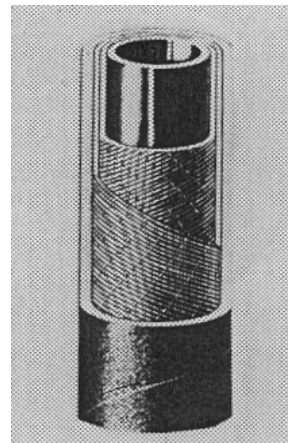
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PG12 2560	25	6	16		40
PG12 3260	32	6	16		40
PG12 3865	38	6.5	16		40
PG12 5080	50	8	16		40
PG12 6380	63.5	8	10		40
PG12 7580	75	8	10		40
PG12 10080	100	8	10		40

Construction

Tube: Nitrile-Antistatic

Reinf: Textile

Outer: SBR



Temperature Range -	-20°C to +65°C .
Pressure -	Safety factor 4:1 at 20°C.
Colour -	Black.
Applications -	Fuel, oil and petrol delivery hose. Max. aromatic content 40%. Domestic fuel oil reeling hose.
Chemical Resistance -	Resistant to most oils. For details see Technical Data Section.
Additional Information -	Flame resistant. Antistatic copper wire embedded in wall of hose. Cut lengths available on all stock sizes.

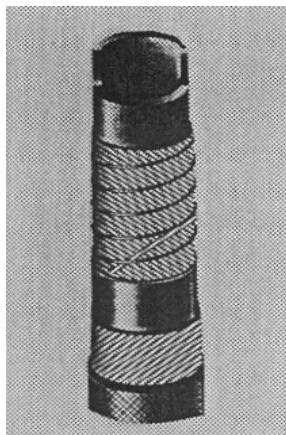
Construction

Tube: Nitrile

Reinf: Textile

& steel helix.

Outer: SBR



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PG23 1950	19	6.5	10		40
PG23 2550	25	7	10		40
PG23 3250	32	7	10		40
PG23 3850	38	8	10		40
PG23 5155	50	8	10		40
PG23 6360	60	8.5	10		40

Temperature Range -

-30°C to +90°C .

Pressure -

Safety factor 3:1 at 20°C.

Colour -

Black.

Applications -

Transfer hose for petrol/oil products.
Fire resistant hose for small craft of up to 24m of hull, with permanently installed inboard engines.

Chemical Resistance -

Resistant to most fuels, oils and petrols.
For details see Technical Data Section.

Additional Information -

Cut lengths available on all stock sizes.

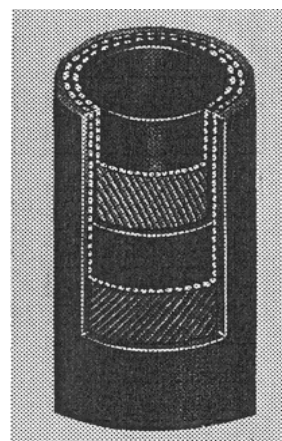
Product Code	I.D. Inches	Wall Inches	Working Pressure at 20°C Bar	Bend Radius MM	Length Metres
PA20 25	1	3/8	N/A	N/A	3
PA20 28	1.1/8	3/8	N/A	N/A	3
PA20 32	1.1/4	3/8	N/A	N/A	3
PA20 35	1.3/8	3/8	N/A	N/A	3
PA20 38	1.1/2	3/8	N/A	N/A	3
PA20 41	1.5/8	3/8	N/A	N/A	3
PA20 45	1.3/4	3/8	N/A	N/A	3
PA20 48	1.7/8	3/8	N/A	N/A	3
PA20 51	2	3/8	N/A	N/A	3
PA20 54	2.1/8	3/8	N/A	N/A	3
PA20 57	2.1/4	3/8	N/A	N/A	3
PA20 61	2.3/8	3/8	N/A	N/A	3
PA20 635	2.1/2	3/8	N/A	N/A	3
PA20 667	2.5/8	3/8	N/A	N/A	3
PA20 699	2.3/4	3/8	N/A	N/A	3
PA20 731	2.7/8	3/8	N/A	N/A	3
PA20 76	3	3/8	N/A	N/A	3
PA20 79	3.1/8	3/8	N/A	N/A	3
PA20 82	3.1/4	3/8	N/A	N/A	3

Construction

Tube: Nitrile

Reinf: Textile

Outer: Neoprene.



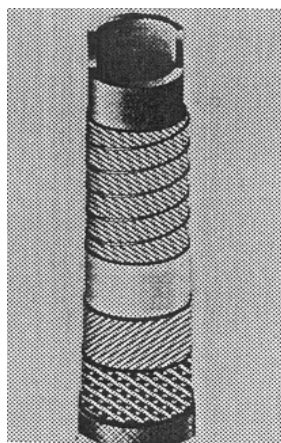
Temperature Range -	-20°C to +80°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Black.
Applications -	For marine use with stern gland fittings.
Chemical Resistance -	Most oils and fuels. For details see Technical Data Section.
Additional Information -	All sizes available cut - by the 1" length. This hose is manufactured in our own workshops -see "Hand Built Section."

Construction

Tube: SBR

Reinf: Textile and
Wire

Outer: SBR



Product Code	I.D. MM	Wall MM	Working Pressure Bar	Bend Radius MM	Coil Length Metres
PA11 2560	25	6	11	90	40
PA11 3260	32	6	14	120	40
PA11 3860	38	6	8	140	40
PA11 4060	40	6	8	150	40
PA11 4560	45	6	7	160	40
PA11 5060	50	6	7	180	40
PA11 5570	55	7	6	200	40
PA11 6070	60	7	5	215	40
PA11 63570	63.5	7	5	230	40
PA11 6570	65	7	5	235	40
PA11 7570	75	7	4	265	40
PA11 76270	76.2	7	4	270	40
PA11 8070	80	7	4	285	40
PA11 88980	88.9	8	3	320	40
PA11 10090	100	9	3	360	40
PA11 101690	101.6	9	3	370	40
PA11 11090	110	9	3	410	40
PA11 11490	114	9	3	430	40
PA11 12510	125	10	3	475	40
PA11 12710	127	10	3	490	40
PA11 152411	152.4	11	3	610	40
PA11 17812	178	12	3	760	20
PA11 203212	203.2	12	3	915	20
PA11 25412	254	12	2	1270	20

Temperature Range - -35°C to +120°C.**Pressure -** Safety factor 3:1 at 20°C.**Colour -** Black.**Applications -** Water cooled marine and stationary diesel engines.
Lloyds type approved No. 91/0257.**Chemical Resistance -** Resistant to most oils and fuels.
For details see Technical Data Section.**Additional Information -** Cut lengths available on all stock sizes.
Manufacturers leaflet available.

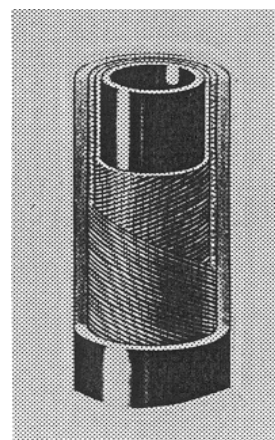
Product Code	I.D. MM	O.D. MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
PG 13 0816	6	16	10	40	50/100
PG 13 0818	8	18	10	50	50/100
PG 13 1019	10	19	10	60	50/100
PG 13 12.522	12.5	22	10	80	50/100
PG 13 1626	16	26	10	100	50
PG 13 1929	19	29	10	120	50
PG 13 2535	25	35	10	150	50
PG 13 3846*	38	46	10	100	20
PG 13 5161*	51	61	10	125	20

Construction

Tube: Nitrile

Reinf: Synthetic textile yarn.

Outer: Neoprene.



* Wire reinforced available

Temperature Range - -20°C + 80°C

Pressure - 10 bar working.

Colour - Black.

Applications - Fire resistant hose for small craft of up to 24m of hull, with permanently installed inboard engines.

Chemical Resistance - Leaded fuels, unleaded fuels and diesel, with an aromatic content not exceeding 50%.

Additional Information - Hose is as specified by the Environment Agency, British Waterways and the DTI. Cut lengths available.

Pre cut lengths available complete with swaged on brass fittings.

DUCTING

SECTION 3

	cat	sect	pge
Fibreplex PVC Coated Fibreglass, Wire Reinforced	1.	3.	1
Vinlyflex Convolued Wire Reinforced PVC Ducting	1.	3.	2
PVC Ducting with Rigid PVC Helix	1.	3.	3
Wyrem	1.	3.	4
Flexflyte Type 1	1.	3.	5
Flextract 2008	1.	3.	6

FIBREFLEX, PVC COATED FIBREGLASS, WIRE REINFORCED

1-3-1

Product Code	I.D. INCHES	Wall INCHES	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NK11 51	2	0.012	N/A	35	6
NK11 63	2.1/2	0.012	N/A	50	6
NK11 76	3	0.012	N/A	53	6
NK11 102	4	0.012	N/A	70	6
NK11 127	5	0.012	N/A	88	6
NK11 152	6	0.012	N/A	105	6
NK11 178	7	0.012	N/A	130	6
NK11 203	8	0.012	N/A	140	6
NK11 228	9	0.012	N/A	165	6
NK11 254	10	0.012	N/A	175	6
NK11 305	12	0.012	N/A	210	6
NK11 356	14	0.012	N/A	250	6
NK11 406	16	0.012	N/A	290	6
NK11 457	18	0.012	N/A	330	6
NK11 508	20	0.012	N/A	350	6
NK11 610	24	0.012	N/A	450	6

Construction

Tube: PVC

Coated Fibreglass.

Reinf: PVC

Coated Wire.



Temperature Range -	-5°C to +90°C.
Pressure -	Low Pressures.
Vacuum -	Low vacuum.
Colour -	Grey.
Applications -	Handling of Air, Fumes, Dust etc.
Chemical Resistance -	For details see Technical Data Section.
Additional Information -	Available in full coils only. A lightweight, inexpensive ducting.

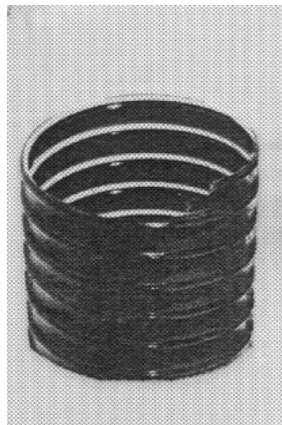
VINYLFLEX CONVOLUTED WIRE REINFORCED PVC DUCTING

Construction

Tube: PVC.

Reinf: PVC

Coated Wire



Product Code	I.D. INCHES	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NH13 19	3/4	0.032	N/A	16	20
NH13 25	1	0.032	N/A	21	20
NH13 32	1.1/4	0.032	N/A	25	20
NH13 38	1.1/2	0.032	N/A	28	20
NH13 45	1.3/4	0.032	N/A	32	20
NH13 50	2	0.032	N/A	35	20
NH13 63	2.1/2	0.032	N/A	44	20
NH13 76	3	0.032	N/A	53	20
NH13 89	3.1/2	0.032	N/A	61	20
NH13 102	4	0.032	N/A	70	20
NH13 114	4.1/2	0.032	N/A	78	20
NH13 127	5	0.032	N/A	88	20
NH13 152	6	0.032	N/A	105	20
NH13 178	7	0.032	N/A	123	20
NH13 203	8	0.032	N/A	140	20
NH13 228	9	0.032	N/A	157	20
NH13 254	10	0.032	N/A	175	20
NH13 305	12	0.032	N/A	210	20

Temperature Range -

0°C to +70°C.

Pressure -

Low Pressures.

Vacuum -

Low Vacuum.

Colour -

Grey or Black.

Applications -

Handling of Air, Fumes, Dust etc.

Chemical Resistance -

For details see Technical Data Section.

Additional Information -

Cut lengths available on all stock sizes.

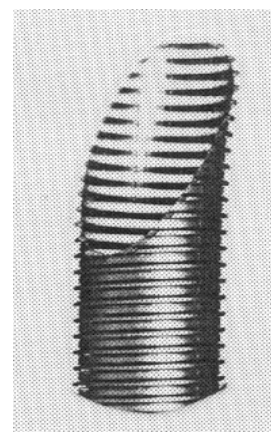
Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NG22 2512	25	1.2	5	55	50
NG22 32125	32	1.25	5	65	50
NG22 3813	38	1.3	4	65	50
NG22 5115	51	1.5	4	80	50
NG22 6317	63	1.7	3.3	110	50
NG22 7622	76	2.2	3	215	50
NG22 9023	90	2.3	3	250	30
NG22 10224	102	2.4	3	280	30
NG22 12724	127	2.4	2.7	350	30
NG22 15024	150	2.4	2	400	30

Construction

Tube: PVC.

Reinf: PVC

Rigid Spiral



Temperature Range -	-15°C to +60°C.
Pressure -	Safety Factor 3:1 at 20°C.
Vacuum -	600mm Hg = 80% at 20°C.
Colour -	Grey.
Applications -	Suction of Fumes, Air, Dust, Wood Shavings, Liquids etc.
Chemical Resistance -	Resistant to most oxidising and reducing agents and diluted acids and alkalis. For details see Technical Data Section.
Additional Information -	Cut lengths available on all of the above. Smooth bore.

Construction

Tube: Rubber

Coated Fabric.

Reinf: Spring

Steel.



Product Code	I.D. INCHES	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NL22 19	3/4		N/A	32	7.62
NL22 25	1		N/A	38	7.62
NL22 32	1.1/4		N/A	48	9.15
NL22 38	1.1/2		N/A	56	9.15
NL22 45	1.3/4		N/A	66	9.15
NL22 51	2		N/A	75	9.15
NL22 57	2.1/4		N/A	84	9.15
NL22 63	2.1/2		N/A	94	9.15
NL22 69	2.3/4		N/A	103	7.62
NL22 76	3		N/A	113	9.15
NL22 82	3.1/4		N/A	122	7.62
NL22 89	3.1/2		N/A	133	9.15
NL22 102	4		N/A	153	9.15
NL22 108	4.1/4		N/A	163	9.15
NL22 114	4.1/2		N/A	173	9.15
NL22 127	5		N/A	190	9.15
NL22 139	5.1/2		N/A	209	7.62
NL22 152	6		N/A	230	9.15
NL22 165	6.1/2		N/A	250	7.62
NL22 178	7		N/A	263	6.1
NL22 203	8		N/A	298	6.1
NL22 228	9		N/A	366	4.572
NL22 254	10		N/A	412	4.572
NL22 305	12		N/A	460	4.572
NL22 381	15		N/A	556	4.572

Temperature Range - -20°C to +100°C.

Pressure - Low Pressures.

Vacuum - Low vacuum.

Colour - Black.

Applications - Robust ducting for air, dust, fume and light particle handling. Flame retardant grade also available.

Chemical Resistance - For details see Technical Data Section.

Additional Information - Cut lengths available on all stock sizes.

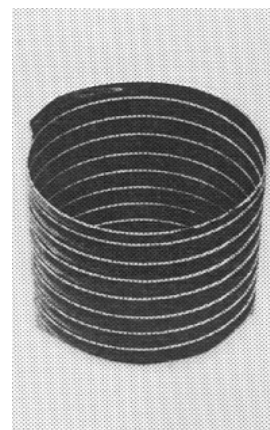
FLEXFLYTE TYPE U1

1-3-5

Product Code	I.D. INCHES	Wall INCHES	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NL11 25	1	0.016	N/A	13	4
NL11 32	1.1/4	0.016	N/A	16	4
NL11 38	1.1/2	0.016	N/A	19	4
NL11 45	1.3/4	0.016	N/A	19	4
NL11 51	2	0.016	N/A	19	4
NL11 63	2.1/2	0.016	N/A	25	4
NL11 69	2.3/4	0.016	N/A	25	4
NL11 76	3	0.016	N/A	25	4
NL11 89	3.1/2	0.016	N/A	28	4
NL11 102	4	0.016	N/A	32	4
NL11 114	4.1/2	0.016	N/A	36	4
NL11 127	5	0.016	N/A	38	4
NL11 139	5.1/2	0.016	N/A	42	4
NL11 152	6	0.016	N/A	44	4

Construction

Tube: Neoprene
Coated Glass
Fibre.
Reinf: Galv. Steel.



Temperature Range -	-50°C to +150°C.
Pressure -	Low Pressures.
Vacuum -	Low Vacuums.
Colour -	Black with White Cord.
Applications -	Air Handling, Light Dust and Fume Extraction.
Chemical Resistance -	For details see Technical Data Section.
Additional Information -	Available in full coils only.

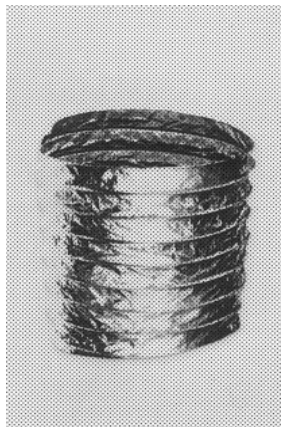
Construction

Tube: Aluminium

Coated Fibreglass

Reinf: Metal

Spiral Helix.



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NL12 77	77		N/A	8	10
NL12 80	80		N/A	9	10
NL12 90	90		N/A	10	10
NL12 102	102		N/A	12	10
NL12 128	128		N/A	14	10
NL12 135	135		N/A	14	10
NL12 152	152		N/A	15	10
NL12 160	160		N/A	15	10
NL12 178	178		N/A	16	10
NL12 203	203		N/A	20	10
NL12 229	229		N/A	23	10
NL12 254	254		N/A	25	10
NL12 305	305		N/A	30	10
NL12 315	315		N/A	32	10
NL12 357	357		N/A	35	10
NL12 408	408		N/A	40	10
NL12 510	510		N/A	50	10
NL12 560	560		N/A	55	10
NL12 610	610		N/A	60	10

Temperature Range - -30°C to +150°C.

Pressure - Low Pressure.

Vacuum - Low Vacuum.

Colour - Metallic silver.

Applications - Air Conditioning and Ventilation Systems.

Chemical Resistance - For details see Technical Data Section.

Additional Information - Available in full coils only.

NYLON TUBE

SECTION 4

	cat	sect	pge
Flexible Nylon Tube - Medium Wall - Imperial.	1.	4.	1
Flexible Nylon Tube - Light Wall - Imperial.	1.	4.	2
Flexible Nylon Tube - Metric.	1.	4.	3
Semi Rigid Nylon Tube - Metric.	1.	4.	4
Semi Rigid Nylon Tube - Medium Wall Imperial.	1.	4.	5
Semi Rigid Nylon Tube - Light Wall Imperial.	1.	4.	6
Semi Rigid Nylon Tube - Heavy Wall Imperial.	1.	4.	7

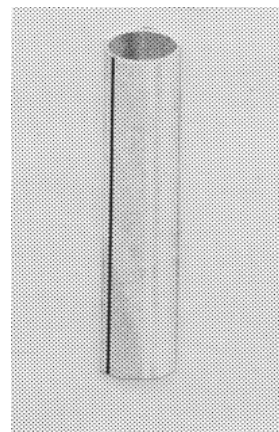
FLEXIBLE NYLON TUBING - MEDIUM WALL - IMPERIAL

1-4-1

Product Code	O.D. Inches	I.D. Inches	Working Pressure at 20°C Bar	Bend Radius Inch	Coil Length Metres
NA11 03	1/8	0.058	48	5/16	30
NA11 05	3/16	0.117	31	3/8	30
NA11 06	1/4	0.170	25	1/2	30
NA11 08	5/16	0.212	25	7/8	30
NA11 10	3/8	0.250	27	1	30
NA11 12	1/2	0.375	19	1.1/2	30
NA11 16	5/8	0.500	15	2.1/2	30
NA11 19	3/4	0.594	15	4	30
NA11 25	1	0.813	14	7	30

Construction

Tube: Nylon



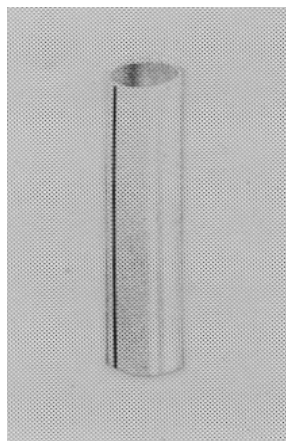
Temperature Range -	-35°C to +70°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Natural, black, red, yellow, blue, green, orange and brown.
Applications -	Pneumatic.
Chemical Resistance -	Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids. For details see Technical Data Section.
Additional Information -	Available in full coils only.

1-4-2

FLEXIBLE NYLON TUBING -LIGHT WALL - IMPERIAL

Construction

Tube: Nylon



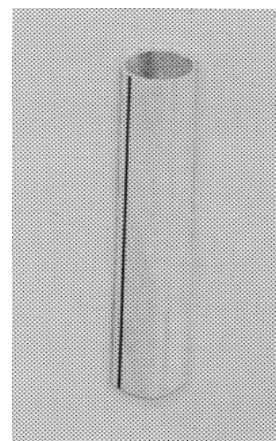
Product Code	O.D. Inches	I.D. Inches	Working Pressure at 20°C Bar	Bend Radius Inch	Coil Length Metres
NA12 05	3/16	0.137	21	1/2	30
NA12 06	1/4	0.190	18	1	30
NA12 08	5/16	0.242	17	1.1/4	30
NA12 10	3/8	0.295	16	1.1/2	30

Temperature Range -	-35°C to +70°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Natural, black, red, yellow, blue, green, orange and brown.
Applications -	Pneumatic.
Chemical Resistance -	Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids. For details see Technical Data Section.
Additional Information -	Available in full coils only.

Product Code	O.D. MM	I.D. MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NA21 0425	4	2.5	27	8	30
NA21 0430	4	3	18	11	30
NA21 0530	5	3	31	10	30
NA21 0640	6	4	24	13	30
NA21 0645	6	4.5	18	26	30
NA21 0855	8	5.5	23	23	30
NA21 0860	8	6	17	33	30
NA21 1070	10	7	22	26	30
NA21 1080	10	8	14	50	30
NA21 1290	12	9	18	45	30
NA21 1210	12	10	11	58	30
NA21 1411	14	11	14	65	30
NA21 1512	15	12	13	65	30
NA21 1613	16	13	14	70	30
NA21 2217	22	17	16	135	30
NA21 2822	28	22	15	200	30

Construction

Tube: Nylon.



Temperature Range - -20°C to +55°C.

Pressure - Safety factor 3:1 at 20°C.

Colour - Natural, black, red, yellow, blue, green, orange and brown.

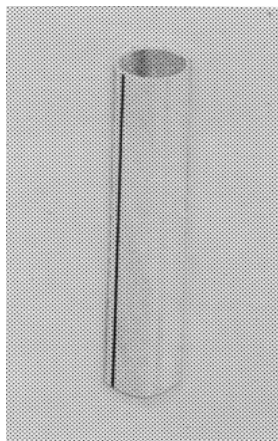
Applications - Pneumatic.

Chemical Resistance - Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids.
For details see Technical Data Section.

Additional Information - Available in full coils only.

Construction

Tube: Nylon.



Product Code	O.D. MM	I.D. MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NA22 0425	4	2.5	44	8	30
NA22 0530	5	3	48	10	30
NA22 0640	6	4	38	13	30
NA22 0860	8	6	27	32	30
NA22 1070	10	7	34	26	30
NA22 1080	10	8	21	50	30
NA22 1210	12	10	17	60	30

Temperature Range - -20°C to +55°C.

Pressure - Safety factor 3:1 at 20°C.

Colour - Black and natural.

Applications - Pneumatic.

Chemical Resistance - Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids.
For details see Technical Data Section.

Additional Information - Available in full coils only.

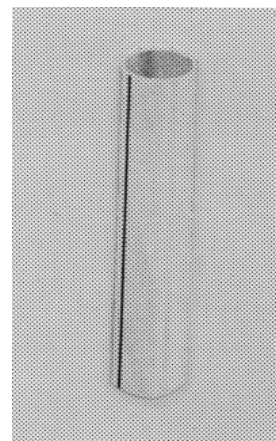
SEMI-RIGID NYLON TUBING - MEDIUM WALL - IMPERIAL

1-4-5

Product Code	O.D. Inches	I.D. Inches	Working Pressure at 20°C Bar	Bend Radius Inch	Coil Length Metres
NA13 50	3/16	0.117	41	1/2	30
NA13 60	1/4	0.170	41	1/2	30
NA13 80	5/16	0.212	41	7/8	30
NA13 10	3/8	0.250	43	1.1/4	30
NA13 12	1/2	0.406	23	2	30

Construction

Tube: Nylon

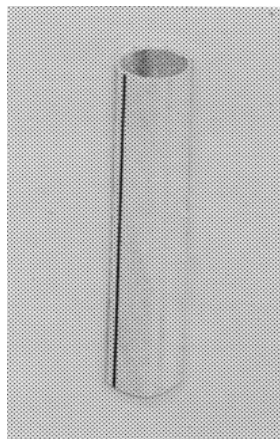


Temperature Range -	-35°C to +70°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Black and natural.
Applications -	Pneumatic.
Chemical Resistance -	Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids. For details see Technical Data Section.
Additional Information -	Available in full coils only.

1-4-6 SEMI-RIGID NYLON TUBING - LIGHT WALL - IMPERIAL

Construction

Tube: Nylon



Product Code	O.D. Inches	I.D. Inches	Working Pressure at 20°C Bar	Bend Radius Inch	Coil Length Metres
NA14 03	1/8	0.095	30	3/8	30
NA14 05	3/16	0.137	34	1/2	30
NA14 06	1/4	0.190	31	1	30
NA14 08	5/16	0.242	28	1.1/4	30
NA14 10	3/8	0.295	26	1.1/2	30

Temperature Range -	-35°C to +70°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Black and natural.
Applications -	Pneumatic.
Chemical Resistance -	Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids. For details see Technical Data Section.
Additional Information -	Available in full coils only.

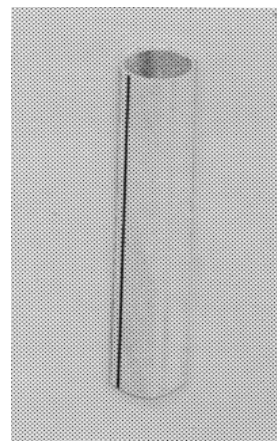
SEMI-RIGID NYLON TUBING - HEAVY WALL - IMPERIAL

1-4-7

Product Code	O.D. Inches	I.D. Inches	Working Pressure at 20°C Bar	Bend Radius Inch	Coil Length Metres
NA15 03	1/8	0.075	55	1/4	30
NA15 05	3/16	0.107	59	3/8	30
NA15 06	1/4	0.150	55	1/2	30
NA15 08	5/16	0.183	57	7/8	30
NA15 10	3/8	0.225	55	1	30

Construction

Tube: Nylon



Temperature Range -	-35°C to +70°C.
Pressure -	Safety factor 3:1 at 20°C.
Colour -	Black and natural.
Applications -	Pneumatic.
Chemical Resistance -	Resistant to most solvents, alkalis, oils, greases, petroleum products, fungi, moulds and dilute acids. For details see Technical Data Section.
Additional Information -	Available in full coils only.

RUBBER TUBING

SECTION 5

	cat	sect	pge
Best Red Natural Rubber Tubing.	1.	5.	1
Neoprene Tube.	1.	5.	2
Translucent Silicone Tubing.	1.	5.	3

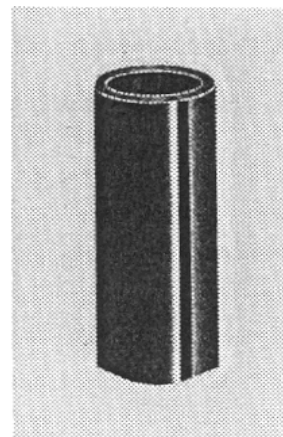
BEST RED NATURAL RUBBER TUBING

1-5-1

Product Code	I.D. Inches	Wall Inches	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
JBRRT 0315	1/8	1/16	N/A	N/A	20
JBRRT 0515	3/16	1/16	N/A	N/A	20
JBRRT 0615	1/4	1/16	N/A	N/A	20
JBRRT 0630	1/4	1/8	N/A	N/A	20
JBRRT 0815	5/16	1/16	N/A	N/A	20
JBRRT 0830	5/16	1/8	N/A	N/A	20
JBRRT 1015	3/8	1/16	N/A	N/A	20
JBRRT 1030	3/8	1/8	N/A	N/A	20
JBRRT 1215	1/2	1/16	N/A	N/A	20
JBRRT 1230	1/2	1/8	N/A	N/A	20
JBRRT 1630	5/8	1/8	N/A	N/A	20
JBRRT 1930	3/4	1/8	N/A	N/A	20
JBRRT 2530	1	1/8	N/A	N/A	20

Construction

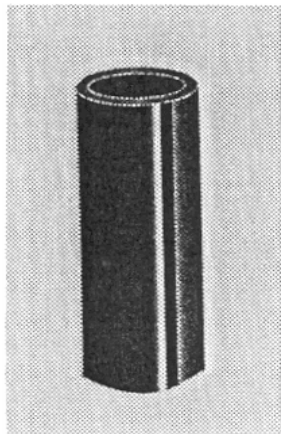
Tube: Natural
45° - 55° S.H.



Temperature Range -	-60°C to +75°C.
Colour -	Red.
Applications -	Soft tubing for various applications.
Chemical Resistance -	Soft tubing for various applications including, laboratory and hospital use. For details see Technical Data Section.
Additional Information -	Cut lengths available on all of the above.

Construction

Tube: Neoprene
60° S.H.



Product Code	I.D. Inches	Wall Inches	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
JNT 0315	1/8	1/16	N/A	N/A	20
JNT 0515	3/16	1/16	N/A	N/A	20
JNT 0615	1/4	1/16	N/A	N/A	20
JNT 0630	1/4	1/8	N/A	N/A	20
JNT 0815	5/16	1/16	N/A	N/A	20
JNT 0830	5/16	1/8	N/A	N/A	20
JNT 1015	3/8	1/16	N/A	N/A	20
JNT 1030	3/8	1/8	N/A	N/A	20
JNT 1215	1/2	1/16	N/A	N/A	20
JNT 1230	1/2	1/8	N/A	N/A	20
JNT 1630	5/8	1/8	N/A	N/A	20
JNT 1930	3/4	1/8	N/A	N/A	20
JNT 2530	1	1/8	N/A	N/A	20

Temperature Range -

-40°C to +95°C.

Colour -

Black.

Applications -

Various.

Chemical Resistance -

U/V and weather resistant, also oil retardant.

For details see Technical Data Section.

Additional Information -

Cut lengths available on all of the above.

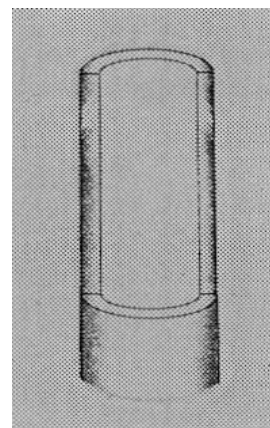
TRANSLUCENT SILICONE TUBING

1-5-3

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
JAS 0325	3	3.5	N/A	N/A	25
JAS 03216	3.2	1.6	N/A	N/A	25
JAS 0420	4	2	N/A	N/A	25
JAS 0516	5	1.6	N/A	N/A	25
JAS 0520	5	2	N/A	N/A	25
JAS 0620	6	2	N/A	N/A	25
JAS 06316	6.3	1.6	N/A	N/A	25
JAS 06332	6.3	3.2	N/A	N/A	25
JAS 07916	7.9	1.6	N/A	N/A	25
JAS 07932	7.9	3.2	N/A	N/A	25
JAS 0820	8	2	N/A	N/A	25
JAS 0830	8	3	N/A	N/A	25
JAS 09516	9.5	1.6	N/A	N/A	25
JAS 09532	9.5	3.2	N/A	N/A	25
JAS 1020	10	2	N/A	N/A	25
JAS 12716	12.7	1.6	N/A	N/A	25
JAS 12732	12.7	3.2	N/A	N/A	25
JAS 15932	15.9	3.2	N/A	N/A	25
JAS 19132	19.1	3.2	N/A	N/A	25
JAS 2530	25	3	N/A	N/A	25

Construction

Tube: Silicone
60° S.H.



Temperature Range -	-60°C to +205°C.
Colour -	Translucent.
Applications -	Medical, door seals, high temperature, chemical, food and beverage.
Chemical Resistance -	Resistant to most chemicals. For details see Technical Data Section.
Additional Information -	Other sizes available to order. M.O.Q. will apply. Cut lengths available on all stock sizes.

CUSTOM BUILT HOSES

SECTION 6

	cat	sect	pge
Custom Built Hoses.	1.	6.	1
Construction of Rubber Hoses.	1.	6.	2
Construction of Rubber Hoses.	1.	6.	3
Construction of Rubber Hoses.	1.	6.	4
Convoluted Bellows.	1.	6.	5

From our modern workshops, we are able to manufacture hoses to suit many applications. We have the capacity to produce hoses up to 6 metres long, and nominal bore sizes up to 24" in diameter.

We carry a wide range of rubber compounds and these include Neoprene, Nitrile, SBR, Natural, Viton, Butyl and EPDM.

Reinforcements include Kevlar, canvas, tyre cord, steel wire etc.. Carrying large stocks enable us to have the flexibility to react quickly to customers demands.

Just some of the products we manufacture are listed below.

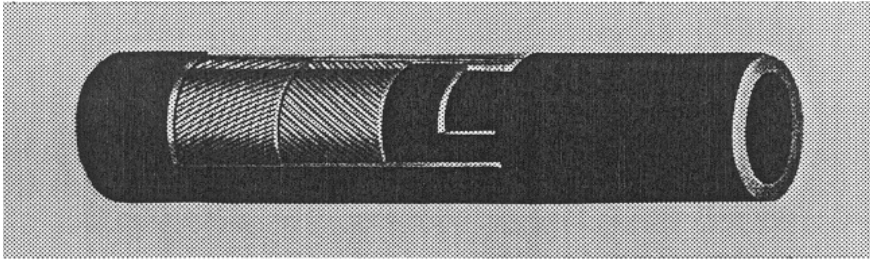
Peristaltic pump hoses,
Pneumatic hoses,
Air shaft tubes,
Stern gland tubes,
Marine diesel exhaust hose,
Bellows (see separate page),
Radiator hoses,
Air hoses,
Grain hoses,
etc..

If you require a hose for a specific application, then we need to know the following information.

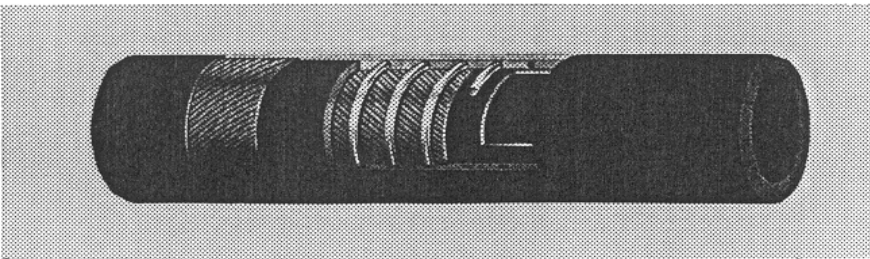
- | | |
|----------------------|--|
| Hose Dimensions | - Internal diameter.
External diameter or wall thickness. |
| Service | - Material to be handled.
Concentration.
Temperature.
Working pressure/vacuum.
(Specify if continuous or intermittent). |
| Operating conditions | - Required flexibility, minimum bend radius.
External conditions (abrasion, temperature, chemicals etc.).
Indoor or outdoor use.
Movement (lateral/ axial). |
| Hose ends | - Plain, soft, enlarged. |

CARCASS DESIGN**Textile reinforced:**

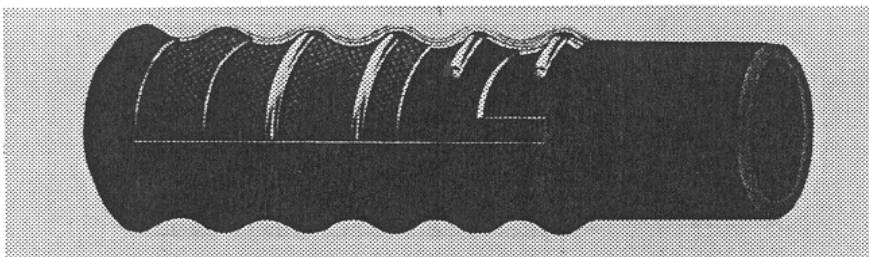
made of a rubber tube, plies of synthetic cord, a rubber cover:

**Textile reinforced with steel wire helix:**

smooth cover:

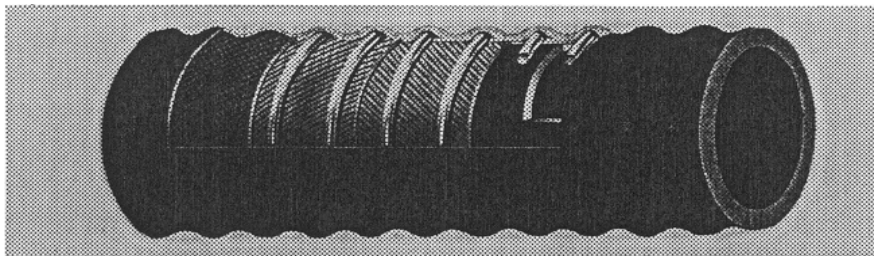
**Corrugated tube and cover:**

with steel wire helix: for the highest flexibility:



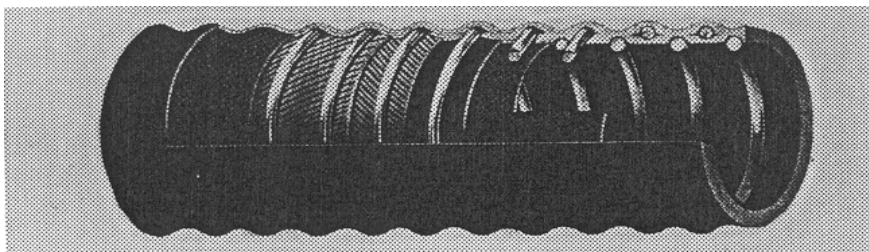
Textile reinforced with steel wire helix:

corrugated cover:



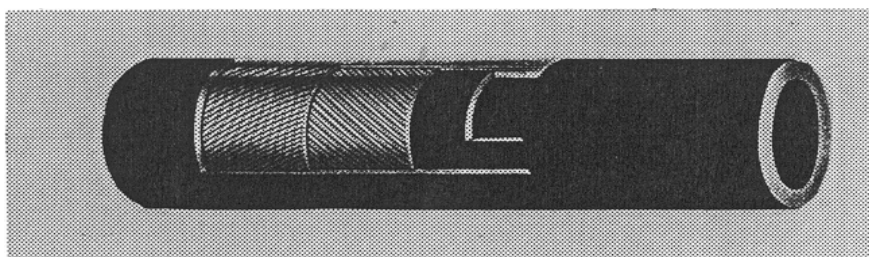
Rough bore:

with 2 steel wire helices:



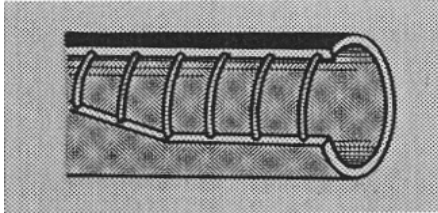
Steel reinforced:

made of rubber tube: plies of steel cord, rubber cover.

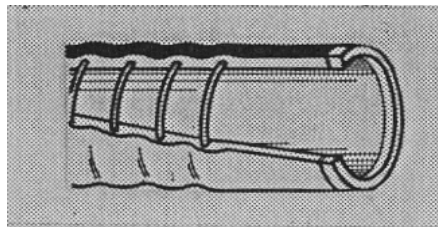


HOSE ENDS**Plain end:**

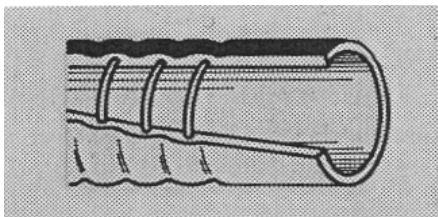
the hose end is cut squarely across, leaving plies and wire helix clearly visible:

**Capped end:**

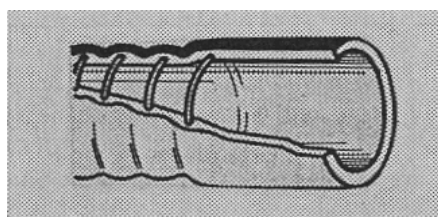
a rubber cap is vulcanised to the end of the hose to protect all exposed carcass reinforcements from corrosion.

**Soft end:**

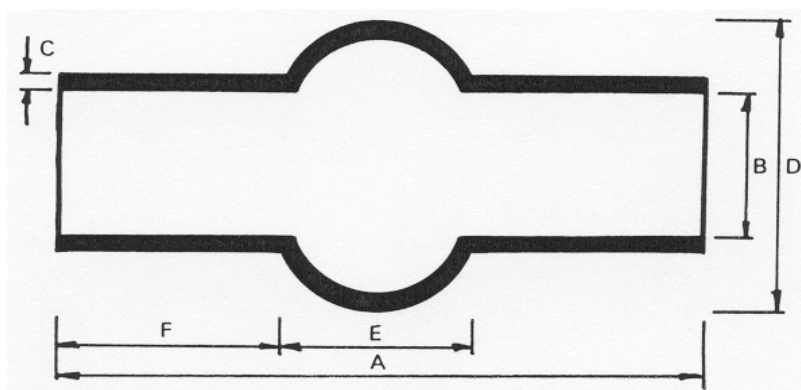
the wire helix is terminated before the end of the hose: textile reinforcement extends to the hose end, thus providing extra strength for secure, leakproof coupling:

**Enlarged end:**

the hose end is enlarged to facilitate the fitting of the nipple:



From our modern workshop we are able to manufacture convoluted bellows to suit many applications. We are able to assist in the design and require the following information before manufacturing.



Overall length	-----	-----	A
Internal diameter	-----	-----	B
Wall thickness	-----	-----	C
Number of convolutions			
External diameter of convolutions	-----		D
Length of convolutions	-----	-----	E
Length of cuffed ends	-----	-----	F
Amount of movement required (lateral/axial) - this will help decide number of convolutions and wall thickness.			
Material to be handled			
Temperature			
Working pressure			

For Flanged Bellows:-

Type and size of flange
Flange material.

We are able to cater for equal or unequal diameters, with either single or multiple convolutions. We carry a wide range of rubber compounds in stock and these include Neoprene, Nitrile, SBR, Natural, Viton, Butyl and EPDM.

Reinforcements include Kevlar, canvas, tyre cord, steel wire etc..

MISCELLANEOUS

SECTION 7

	cat	sect	pge
Unreinforced Polyurethane Tubing.	1.	7.	1
Reinforced Polyurethane Tubing.	1.	7.	2

TEMPLATE

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NB21 0315	3	1.5	N/A	48	30
NB21 0515	5	1.5	N/A	64	30
NB21 0615	6	1.5	N/A	72	30
NB21 0630	6	3.0	N/A	96	30
NB21 0815	8	1.5	N/A	88	30
NB21 0830	8	3.0	N/A	112	30
NB21 0915	9	1.5	N/A	96	30
NB21 1015	10	1.5	N/A	120	30
NB21 1215	12	1.5	N/A	120	30
NB21 1330	13	3.0	N/A	152	30
NB21 1630	16	3.0	N/A	176	30
NB21 1930	19	3.0	N/A	200	30
NB21 2230	22	3.0	N/A	224	30
NB21 2530	25	3.0	N/A	248	30
NB21 3230	32	3.0	N/A	304	30
NB21 3245	32	4.5	N/A	328	30
NB21 3845	38	4.5	N/A	376	30
NB21 4545	45	4.5	N/A	432	30
NB21 5045	50	4.5	N/A	472	30

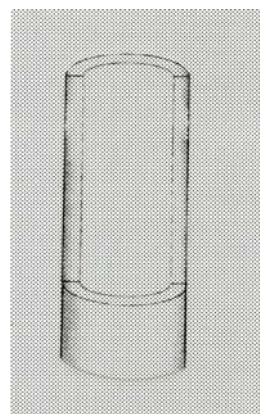
Construction
Tube: PVC.

Temperature Range -	-20°C to +55°C.
Pressure -	Not recommended for pressure applications.
Colour -	Clear. Various colours available subject to minimum order quantity.
Applications -	Food and Beverage delivery (FDA approved), Laboratory, Medical, Drain hose.
Chemical Resistance -	Resistant to most oxidising and reducing agents and alkalis. For details see Technical Data Section.

Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NB22 0315	3	1.5	N/A	36	30
NB22 0515	5	1.5	N/A	48	30
NB22 0615	6	1.5	N/A	63	30
NB22 0630	6	3	N/A	72	30
NB22 0815	8	1.5	N/A	66	30
NB22 0830	8	3	N/A	84	30
NB22 1030	10	3	N/A	96	30
NB22 1330	13	3	N/A	114	30

Construction

Tube: Polyurethane



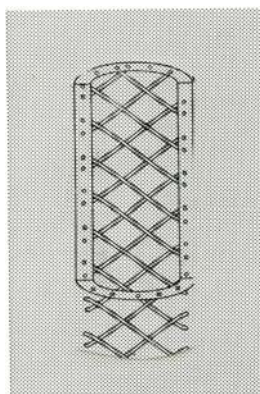
Temperature Range -	-30°C to +70°C (occasional up to 100°C).
Pressure -	Not recommended for pressure applications.
Colour -	Clear.
Applications -	Fuel and chemical lines. Control and metering pumps - abrasion resistant.
Chemical Resistance -	Good resistance to most fuels, solvents, chemicals and gases. For details see Technical Data Section.

Construction

Tube: Polyurethane

Reinf: Polyester
fibre.

Outer: Polyurethane



Product Code	I.D. MM	Wall MM	Working Pressure at 20°C Bar	Bend Radius MM	Coil Length Metres
NC22 6326	6.3	2.6	19	69	30
NC22 1030	10	3	16	96	30
NC22 12530	12.5	3	14	111	30
NC22 1635	16	4	11	138	30
NC22 1935	19	3.5	9	156	30
NC22 2540	25	4	7	198	30

Temperature Range -

-30°C to +70°C (occasional up to 100°C).

Pressure -

Safety factor 3:1 at 20°C.

Colour -

Clear.

Applications -

Petrol, oil and fuel lines. Chemical and granular transfer - abrasion resistant.

Chemical Resistance -Good resistance to most fuels, solvents, chemicals and gases.
For details see Technical Data Section.

TECHNICAL

SECTION 8

	cat	sect	pge
Properties of Rubber used in the Manufacture of Hoses.....	1.	8.	1
Properties of Rubber used in the Manufacture of Hoses.....	1.	8.	2
Properties of Reinforcement Materials used in the Manufacture of Hoses.	1.	8.	3
Dimensional Tolerances.	1.	8.	4
Conversion Tables.	1.	8.	5
Conversion Tables.	1.	8.	6
Conversion Tables.	1.	8.	7
Solvents Information Chart.	1.	8.	8
Chemical Resistance Chart for Rubber Hoses.	1.	8.	9
Chemical Resistance Chart for Rubber Hoses.	1.	8.	10
Chemical Resistance Chart for Rubber Hoses.	1.	8.	11
Chemical Resistance Chart for Rubber Hoses.	1.	8.	12
Chemical Resistance Chart for Rubber Hoses.	1.	8.	13
Chemical Resistance Chart for PVC Hoses.	1.	8.	14
Chemical Resistance Chart for PVC Hoses.	1.	8.	15
Chemical Resistance Chart for PVC Hoses.	1.	8.	16
Chemical Resistance Chart for PVC Hoses.	1.	8.	17
Chemical Resistance Chart for PVC Hoses.	1.	8.	18

PROPERTIES OF RUBBER USED IN THE MANUFACTURING OF HOSES.

1-8-1

1 STYRENE BUTADIENE RUBBER - SBR.

Good physical properties, including abrasion resistance. Not resistant to oils and fuels and is not U/V stable.

Temperature range -55°C to +85°C.

2 NATURAL RUBBER - NR.

Excellent physical properties including abrasion and low temperature resistance. Not resistant to oils and fuels and not U/V stable.

Temperature range -60°C to +75°C.

3 CHLOROPRENE RUBBER - CR.

Excellent U/V resistance and, flame retarding. Moderate resistance to oil and chemicals.

Temperature range -40°C to +95°C.

4 ACRYLONITRILEBUTADIENE RUBBER - NBR.

Excellent resistance to petroleum based fluids. Good physical properties. Not U/V stable.

Temperature range -20°C to +100°C.

5 ETHYLENE PROPYLENE DIENE MONOMER - EPDM.

Excellent resistance to steam, aging, U/V and chemicals. Not resistant to oil and fuels.

Temperature range -50°C to +130°C.

6 HYPALON - CSM.

Excellent resistance to U/V, weathering, and acids. Good abrasion and heat resistance. Fair resistance to petroleum based fluids.

Temperature range -25°C to +130°C.

1-8-2 PROPERTIES OF RUBBER USED IN THE MANUFACTURING OF HOSES.

7 VITON - FPM.

Very good chemical and high temperature resistance. Excellent resistance to oil and fuels including aromatics.

Temperature range -20°C to +205°C.

8 SILICONE - SI.

Excellent resistance to temperature, chemical and U/V. Poor resistance to fuels.

Temperature range -60°C to +205°C.

9 PVC

Excellent chemical, corrosion and U/V resistance.

Temperature range -20°C to +55°C.

10 POLYURETHANE - PU.

Excellent chemical, fuel, temperature and abrasion resistance. Highly elastic and very flexible.

Temperature range -30°C to +70°C.

11 BUTYL - IIR.

Excellent U/V resistance. Low permeability to air and gasses. Good physical properties. Heat resistant. Poor resistance to petroleum based fluids.

Temperature range -40°C to +135°C.

12 THERMOPLASTIC ELASTOMER - TPE.

Excellent U/V and temperature resistant. Low odour permeability. Good resistance against fuels and oils.

Temperature range -20°C to +100°C.

PROPERTIES OF REINFORCEMENT MATERIALS USED IN THE MANUFACTURING OF HOSES.

1-8-3

1 COTTON

Good strength increasing with moisture content. High moisture absorption.
Low resistance against chemical and fungal activity.

2 NYLON

Very high strength, high elongation. Very good resistance to fatigue and abrasion.
Low moisture absorption. High resistance against chemical and fungal activity.
Good temperature resistance.

3 RAYON

Very good dry strength. High moisture absorption. Good resistance to fatigue.
Low resistance against chemical and fungal activity.

4 POLYESTER.

Very high strength. Excellent resistance to fatigue and abrasion. Low moisture
absorption. High resistance against chemical and fungal activity.

5 STEEL CORD.

Extremely high strength, dimensional stability and corrosion resistance.

1-8-4

DIMENSIONAL TOLERANCES

INSIDE AND OUTSIDE DIAMETER TOLERANCES

I.D.		Tolerances		I.D.		Tolerances	
mm	inch	mm	inch	mm	inch	mm	inch
10	3/8	± 0.75	± 0.030	63.5	2.1/2	± 1.50	± 0.059
13	1/2	± 0.75	± 0.030	80	3.1/2	± 2.00	± 0.079
16	5/8	± 0.75	± 0.030	102	4	± 2.00	± 0.079
19	3/4	± 0.75	± 0.030	127	5	± 2.00	± 0.079
25	1	± 1.25	± 0.049	152	6	± 2.00	± 0.079
32	1.1/4	± 1.25	± 0.049	203	8	± 2.00	± 0.079
40	1.9/16	± 1.50	± 0.059	254	10	± 3.00	± 0.118
51	2	± 1.50	± 0.059	315	12.3/8	± 3.00	± 0.118

LENGTH TOLERANCES

Tolerances for Specific Cut Lengths of Hose

These tolerances apply to hose which is made in conventional lengths and then cut to specified shorter pieces.

Length		Tolerances	
mm	Inch	± mm	± inch
305 and under	12 and under	3.18	0.125
305 through 610	over 12 through 24	4.80	1.188
611 through 915	over 24 through 36	6.40	0.250
916 through 1220	over 36 through 48	9.50	0.375
1221 through 1830	over 48 through 72	12.70	0.500
over 1830	over 72	1%	1%

Tolerances for Hose Built to length

When fittings or special ends are applied at time of manufacture, tolerance to overall length.

Length		Tolerances	
Metres	Feet	± mm	± inch
1.5 and under	5 and under	25.40	1
over 1.5 through 3.0	over 5 through 10	38.00	1.5
over 3.0 through 6.0	over 10 through 20	64.00	2.5
over 6.0	over 20	1%	1%

CONVERSION TABLES.

1-8-5

LENGTH

		inches	feet	yards	metres	mm's
1 inch	=	-	0.0833	0.0277	0.0254	25.4
1 foot	=	12	-	0.3333	0.3048	304.8
1 yard	=	36	3	-	0.9144	914.4
1 metre	=	39.37	3.2808	1.0936	-	1000
1 mm	=	0.0394	0.0033	0.0011	0.0010	-

VOLUME

		U.K. gall	U.S. gall	cu. ft.	litre	c.m.
1 UK gallon	=	-	1.200	0.160	4.546	0.0045
1 US gallon	=	0.833	-	0.134	3.785	0.0036
1 cu. ft.	=	6.229	7.480	-	28.316	0.0283
1 litre	=	0.220	0.264	0.353	-	0.0010
1 c.m.	=	219.969	264.172	35.315	1000	-

PRESSURE

		bars	atmos- phere	mm/Hg	metres head of water	lbf/in ²	in/Hg	feet head of water
1 Bar	=	1	0.9700	750	10.2	14.5	29.53	33.4
1 Atmosphere	=	1.0100	1	760	10.33	14.7	29.92	33.9
1mm Hg	=	0.0013	0.0013	1	0.0136	0.0193	0.0394	0.0446
1 m head of water	=	0.9078	0.0968	73.560	1	1.4220	2.8960	3.2810
1 lbf/in ²	=	0.0690	0.0680	51.710	0.7031	1	2.0360	2.0370
1 in Hg	=	0.0340	0.0334	25.400	0.3453	0.4911	1	1.1330
1 ft. head of water	=	0.0300	0.0295	22.420	0.3048	0.4325	0.8827	1
METRIC UNITS								
1 kPa (Kilopascal)	=		0.154 psi		=	0.01 bars		
1 MPa (Megapascal)	=		145.04 psi		=	10 bars		
1 kp/cm ²	=		14.20 psi		=	0.98 bars		
1 kgf/cm ²	=		14.20 psi		=	0.98 bars		

VACUUM

ATM	PSI	<u>water</u>		<u>mercury</u>		%
		metre	feet	mm	inches	
0.1	1.4	1	3' 3.3/8"	73.6	2.9	10
0.2	2.8	2	6' 6.3/4"	147.1	5.8	20
0.3	4.2	3	9' 10.1/8"	220.7	8.7	30
0.4	5.7	4	13' 1.1/2"	294.2	11.6	40
0.5	7.1	5	16' 4.13/16"	367.8	14.5	50
0.6	8.5	6	19' 8.3/16"	441.3	17.4	60
0.7	10.0	7	22' 11.9/16"	514.9	20.3	70
0.8	11.4	8	26' 2.15/16"	588.4	23.2	80
0.9	12.8	9	29' 6.3/8"	662.0	26.0	90
1.0	14.2	10	32' 9.11/16"	735.5	29.0	100

CONVERSION TABLES.

1-8-7

TEMPERATURE CONVERSION CHART. Fahrenheit - Celcius (Centigrade).

°C		°F	°C		°F	°C		°F
-46	-50	-58	21	70	158	138	280	536
-43	-45	-49	24	75	167	143	290	554
-40	-40	-40	27	80	176	149	300	572
-35	-30	-22	29	85	185	154	310	590
-32	-25	-13	32	90	194	160	320	608
-29	-20	-4	35	95	203	166	330	626
-26	-15	+5	38	100	212	171	340	644
-23	-10	14	43	110	230	177	350	662
-21	-5	23	49	120	248	182	360	680
-18	0	32	54	130	266	188	370	698
-15	+5	41	60	140	284	193	380	716
-12	10	50	66	150	302	199	390	735
-10	15	59	71	160	320	204	400	752
-7	20	68	77	170	338	210	410	770
-4	25	77	82	180	356	216	420	788
-1	30	86	88	190	374	221	430	806
0	32	90	99	210	410	227	440	824
+2	35	95	100	212	414	232	450	842
5	40	104	104	220	428	238	460	860
7	45	113	110	230	446	243	470	878
10	50	122	116	240	464	249	480	896
13	55	131	121	250	482	254	490	914
16	60	140	127	260	500	260	500	932
18	65	149	132	270	518			

How to use the table.

Locate the temperature in bold type and read the equivalent °F in the right hand column and the equivalent °C in the left hand column.

Example:

- 1 °C to °F. You wish to convert 40°C to °F. Locate 40 in the bold typeface column and read the appropriate temperature in the °F column to the right.
The answer is 104°F.
- 2 °F to °C. To convert 40°F to °C, locate 40 in the bold typeface column, and the °C to the left will show that the answer is 5°C.

1 AROMATIC SOLVENTS

Benzene, cumene, p-cumene, naphthalene, toluene, xylene, cresol, styrene, cyclohexane and combinations.

2 ALIPHATIC SOLVENTS

Propane, butane, pentane, hexane, heptane, dipentene, tripropylene.

3 HALOGENOUS SOLVENTS

Chloroform, dichlorobenzene, dichloroethylene, methylenebromide, methylene chloride, benzyl chloride, carbon tetrachloride, trichloroethylene, carbon disulphide, turpentine, perchloroethylene, dichloroethane.

4 KETONIC SOLVENTS

Acetone, methyl ketone, isobutyl ketone, methyl ethyl ketone, methyl isobutyl ketone.

5 ESTERS SOLVENTS

Butyl acetate, methyl acetate, amyl acetate, isobutyl acetate.

6 ALCOHOLS

Methyl (wood spirits), ethyl, butyl, amyl, isopropyl, decyl, isobutyl, diacetone, ethyl, hexanol.

7 AMINES

Aniline, ethylene diamine, diethanol amine, triethanolamine, dimethyl amine, monoethanolamine.

CHEMICAL RESISTANCE CHART

(Reprinted from RMA Hose Handbook IP-2 Fourth Edition)
For Rubber Hoses.

1-8-9

Resistance -Rating.

A Good
F Fair
C Depends on Condition
X Unsuitable
T No data - Normally likely
to be satisfactory

Elastomers

NR Isoprene, natural
IR Isoprene, synthetic
SBR Styrene-butadiene
CR Chloroprene
NBR Acrylonitrile butadiene.
CSM Chloro-sufonyl-polyethylene

EPDM Ethylene propylene diene monomer
FPM Fluorocarbon rubber
XLPE Cross-linked polyethylene

Material		Most Commonly Used Elastomers					Special Elastomers		
		NR or IR	SBR	CR	NBR	CSM	EPDM	FPM	XLPE
[Maximum Temperature +38°C (+100°F) Unless Otherwise Specified].									
Acetic Acid, dilute, 10%		F	C	C	C	C	A	X	A
Glacial		C	X	X	X	C	F	X	A
Anhydride		C	C	F	F	A	T	X	A
Acetone		A	A	F	X	F	A	X	A
Acetylene		A	A	F	A	F	A	T	A
Air + 65°C (150°F)		A	A	A	A	A	A		A
Aluminium Chloride + 65°C (150°F)		A	A	A	A	A	A	A	A
Aluminium Fluoride + 65°C (150°F)		A	A	A	A	A	A		A
Aluminium Sulphate + 65°C (150°F)		A	A	A	A	A	A	T	A
Alums + 65°C (150°F)		A	A	A	A	A	A		A
Ammonia gas		A	A	A	A	A	A	X	A
Ammonium Chloride		A	A	A	A	A	A	T	A
Ammonium Hydroxide		C	F	F	F	A	A	A	A
Ammonium Nitrate		A	A	A	A	A	A		A
Ammonium Phosphate, monobasic		A	A	A	A	A	A		A
dibasic		A	A	A	A	A	A		A
tribasic		A	A	A	A	A	A		A
Ammonium sulphate		A	A	A	A	A	A	T	A
Amyl acetate		F	X	X	X	X	A	X	A
Amyl alcohol		A	A	A	A	A	A	A	A
Aniline, analine oil		X	X	C	X	X	C	A	A
Aniline dyes		F	F	F	F	F	C		T
Asphalt		X	X	F	F	F	X	A	X
Barium chloride + 65°C (150°F)		A	A	A	A	A	A		A
Barium Hydorxide + 65°C (150°F)		A	A	A	A	A	A	T	A
Burium sulphide + 65°C (150°F)		A	A	A	A	A	A		A
Beer		A	A	A	A	A	A		A
Beet sugar, liquors		A	A	A	A	A	A		A
Benzene, Benzol		X	X	X	C	X	X	A	A
Benzine, petroleum ether and benzine, petroleum naptha		X	X	C	F	F	X		A
Black sulphate liquor		A	A	A	A	A	A		A
Blast furnace gas		C	C	A	C	C	C		A
Borax		A	A	A	A	A	A	T	A
Boric acid		A	A	A	A	A	A		A
Bromine		X	X	X	X	C	X	A	F

Material	NR or IR	Most Commonly Used Elastomers					Special Elastomers	
		SBR	CR	NBR	CSM	EPDM	FPM	XLPE
		[Maximum Temperature +38°C (+100°F) Unless Otherwise Specified].						
Butane	X	X	F	A	A	X	T	A
Butyl acetate	C	X	X	X	X	F	X	A
Butyl alcohol, butanol	A	A	A	A	A	A	A	A
Calcium bisulphate	C	C	A	A	A	F	T	A
Calcium chloride	A	A	A	A	A	A	T	A
Calcium hydroxide	A	A	A	A	A	A	T	A
Calcium hypochlorite	X	X	X	X	F	A	T	F
Caliche liquors	A	A	A	A	A	A		A
Cane sugar liquors	A	A	A	A	A	A		A
Carbolic acid, phenol	C	C	C	C	C	A		A
Carbon dioxide, dry/wet	A	A	A	A	A	A		A
Carbon disulphide	X	X	X	X	X	X	A	C
Carbon monoxide	+ 65°C (150°F)	C	C	C	C	F	C	T
Carbon tetrachloride		X	X	X	C	X	X	A
Castor oil		A	A	A	A	A	A	T
Cellosolve acetate		F	F	X	X		A	C
China wood oil, tung oil		X	X	F	A	F	A	C
Chlorine, dry/wet		X	X	X	X	X	X	A
Chlorinated solvents		X	X	X	X	X	X	A
Chloroacetic acid		X	C	C	C	A	T	X
Chlorosulfonic acid		X	X	C	C	X	X	X
Chromic acid		X	X	X	X	A	T	T
Citric acid		A	A	A	F	A	A	T
Coke oven gas		C	C	C	C	A		X
Copper chloride	+ 65°C (150°F)	C	A	F	A	F	A	T
Copper sulphate	+ 65°C (150°F)	C	A	A	A	A	A	T
Corn oil		X	C	F	A	F	C	
Cottonseed oil		X	C	F	A	F	C	A
Creosote, coal tar		X	X	F	A	F	X	F
wood		X	X	F	A		X	F
Creosols, cresylic acid		C	X	X	C	F	X	
Ethers		C	C	C	C	F	X	X
Ethyl acetate		F	X	X	X	X	F	X
Ethyl alcohol		A	A	A	A	A	A	A
Ethyl cellulose		F	F	F	F		F	
Ethyl chloride		A	F	F	X	F	A	F
Ethylene glycol		A	A	A	A	A	A	A
Ferric chloride	+ 65°C (150°F)	A	A	A	A	A	A	T
Ferric sulphate	+ 65°C (150°F)	A	A	A	A	A	A	
Formaldehyde		A	A	C	A	A	A	A
Formic acid		A	A	C	F	A	A	X
Freon # 12 (liquid)		X	X	A	F		F	A
Fuel oil		X	X	F	A	F	X	T
Furfural		X	C	C	X	F	C	X
Gasoline non-leaded		X	X	X	A	X	X	A
Gasoline reg. leaded		X	X	X	A	X	X	A
Hi-test leaded		X	X	X	A	X	X	A

CHEMICAL RESISTANCE CHART

1-8-11

Material	Most Commonly Used Elastomers						Special Elastomers	
	NR or	SBR	CR	NBR	CSM	EPDM	FPM	XLPE
	IR	[Maximum Temperature +38°C (+100°F) Unless Otherwise Specified].						
Gelatin	A	A	A	A	A	A		A
Glucose	A	A	A	A	A	A		A
Glue	F	F	A	A	A	A	T	A
Glycerine, glycerol	A	A	A	A	A	A	A	A
Green sulfate liquor	A	A	A	A	A	A		A
Hydraulic fluids								
Petroleum	X	X	A	A	F	X		
Phosphate ester alkyl	X	X	C	X	X	A		
Phosphate ester aryl	X	X	X	X	X	C		
Phosphate ester blends	X	X	X	X	X	C		
Silicate ester	X	X	C	C	C	X		
Water-glycol	A	A	A	A	A	A		
Hydrobromic acid	C	X	C	C	A	A		T
Hydrochloric acid	A	X	X	X	C	C	A	A
Hydrocyanic acid	F	F	C	F	A	C	T	A
Hydrofluoric acid	X	X	X	X	A	C	A	A
Hydrfluosilicic acid	A	F	F	F		A		T
Hydrogen gas	F	F	A	A		A	T	A
Hydrogen peroxide	X	X	C	C	C	C	A	T
Hydrogen sulphide, dry	C	C	F	C	A	A	T	A
wet	C	C	F	C	A	A		A
Kerosene	X	X	F	A	C	X	A	A
Lacquers	X	X	X	X	X	X		F
Laquers solvents	X	X	X	X	X	X	X	F
Lactic acid	C	C	C	C	A	C	T	A
Linseed oil	C	X	F	A	A	A	A	A
Lubricating oil, crude	X	X	F	A	C	X	A	A
refined	X	X	F	A	C	X		A
Magnesium chloride + 65°C (150°F)	A	A	A	A	A	A	T	A
Magnesium hydroxide + 65°C (150°F)	A	F	F	F	A	A	T	A
Magnesium sulphate + 65°C (150°F)	A	A	A	A	A	A		A
Mercuric chloride	F	F	C	F	A	A	T	A
Mercury	A	A	A	A	A	A	T	A
Methyl alcohol, methanol	A	A	A	A	A	A	C	A
Methyl chloride	C	C	C	C	X	C		F
Methyl ethyl Ketone	X	X	X	X	C	A	X	A
Methyl isopropyl ketone	X	X	X	X	C	C	X	A
Milk	C	C	F	F	A	A		A
Mineral oils	X	C	F	A	F	X	T	A
Natural gas	C	C	A	A	A	X		A
Nickel chloride + 65°C (150°F)	A	A	A	A	A	A		A
Nickel sulphate + 65°C (150°F)	A	A	A	A	A	A		A
Nitric acid, crude	X	X	X	X	C	X		F
diluted 10%	X	X	C	X	A	C	C	T
concentrated 70%	X	X	X	X	C	X	C	F
Nitrobenzene	X	X	X	X	X	X	F	A
Oleic acid	X	F	C	F	F	F	T	A

Material	Most Commonly Used Elastomers						Special Elastomers	
	NR or	SBR	CR	NBR	CSM	EPDM	FPM	XLPE
	IR	[Maximum Temperature +38°C (+100°F) Unless Otherwise Specified].						
Oleum spirits	X	C	C	C		T	C	T
Oxalic acid	F	C	F	F	A	A		A
Oxygene	X	C	A	C		A		A
Palmitic acid	X	F	A	A	F	F	T	A
Perchloroethylene	X	X	X	C	X	X	A	A
Petroleum oils and crude	X	X	F	A	C	X		A
Phosphoric acid, crude	A	C	C	C	A	C		A
pure 45%	A	C	C	C	A	C	A	A
Picric acid, molten	C	C	C	C		T		T
water solution	A	C	F	F	A	T	T	T
Potassium chloride	A	A	A	A	A	A		A
Potassium cyanide	A	A	A	A	A	A		A
Potassium hydroxide	F	F	C	C	A	A	T	A
Potassium sulphate	A	A	A	A	A	A		A
Propane	X	X	F	A	F	X		A
Sewage	C	C	F	A	A	C		A
Soap solutions	A	A	F	A	A	A	T	A
Soda ash, sodium carbonate	A	A	A	A	A	A		A
Sodium bicarbonate, baking soda	A	A	A	A	A	A		A
Sodium bisulphate	A	A	A	A	A	A		A
Sodium chloride	A	A	A	A	A	A		A
Sodium cyanide	A	A	A	A	A	A		A
Sodium hydroxide	F	F	C	C	C	A	A	A
Sodium hypochlorite	X	X	X	X	F	A	T	F
Sodium metaphosphate	A	A	C	A	F	A		A
Sodium nitrate	C	C	C	C	A	A		A
Sodium perborate	C	C	C	C	A	A		A
Sodium peroxide	C	C	C	C	A	A	T	A
Sodium phosphate, monobasic	A	F	C	F	A	A		A
dibasic	A	F	C	F	A	A		A
tribasic	A	F	C	F	A	A		A
Sodium silicate	A	A	A	A	A	A		A
Sodium sulphate	A	A	A	A	A	A		A
Sodium sulphide	A	A	A	A	A	A		A
Sodium thiosulphate "hypo"	A	A	A	A	A	A		A
Soyabean oil	X	C	F	A	A	A	A	A
Stannic chloride	A	A	A	A	A	F	T	A
Steam	C	C	C	C	C	F		X
Stearic acid	X	X	C	F	C	F	T	A
Sulphur	F	F	A	F	A	A		C
Sulphur chloride	X	X	C	C	A	X		A
Sulphur dioxide, dry	C	C	C	C	A	C	T	T
Sulphur trioxide, dry	X	C	C	C	F	C	T	T
Sulphuric acid, 10%	A	A	A	A	A	A	A	A
11%-75%	C	C	C	C	A	C	T	A
76%-95%	X	X	X	X	A	X	A	A
fuming	X	X	X	X	X	X	A	X
Sulphurous acid	C	C	C	C	A	C	T	A

CHEMICAL RESISTANCE CHART

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Material	Most Commonly Used Elastomers					Special Elastomers		
	NR or	SBR	CR	NBR	CSM	EPDM	FPM	XLPE
	IR	[Maximum Temperature +38°C (+100°F) Unless Otherwise Specified].						
Tannic acid	A	C	A	C	A	A	T	A
Tar	X	X	C	C	C	X		X
Tartaric acid	A	C	C	C	A	F	T	A
Touene, toluol	X	X	X	C	X	X	A	A
Trichloethylene	X	X	X	X	X	X	A	A
Turpentine	X	X	X	F	X	X	A	A
Vinegar	C	C	C	C	A	A		A
Water, acid mine	A	A	C	A	A	A	A	A
Water, fresh	A	A	C	A	A	A		A
distilled	A	A	C	A	A	A		A
Whisky and wines	A	A	A	C	A	A		A
Xylene, xylol	X	X	X	C	X	X	A	A
Zinc chloride	C	C	C	C	A	A	T	A
Zinc sulphate	A	A	A	A	A	A		A

Key to Resistance Rating @ 20°C.

A	Excellent resistance
F	Good resistance
C	Limited resistance
X	Poor resistance
T	Not tested

Key to Product Groups

A	PVC
B	Oil resistant PVC
C	Polyurethane

+ aq sol - aqueous solution

CHEMICAL AGENTS		Product group		
		A	B	C
Acetaldehyde		X	T	F
Acetic acid	10%	C	T	X
Acetic acid	25%	F	T	X
Acetic acid	50%	X	T	X
Acetic acid	100%	X	T	X
Acetic anhydride		X	T	X
Acetone		C	X	X
Adipic acid		A	A	T
Allyl alcohol		F	T	T
Allyl chloride		X	X	X
Aluminium acetaldehyde aq sol +		A	A	C
Aluminium chloride		A	A	F
Aluminium fluoride		A	A	C
Aluminium hydroxide		A	A	F
Aluminium nitrate		A	A	T
Aluminium sulphate		A	A	A
Ammonia aqueous		A	A	X
Ammonia dry gas	100%	A	T	X
Ammonia water	100%	C	C	X
Ammonium carbonate		A	A	X
Ammonium chloride		A	A	A
Ammonium hydroxide		C	F	X
Ammonium nitrate		A	A	A
Ammonium persulphate		A	A	F
Ammonium sulphate		A	A	T
Amyl acetate		X	T	X
Amyl alcohol		A	A	F
Aniline		F	T	X
Anthraquinone		A	T	T
Arsenic acid		A	A	C
Barium chloride		A	A	A
Barium hydroxide		A	A	A
Barium sulphate		A	A	A
Barium sulphide		A	A	F
Beer		A	A	A
Benzoic acid aq sol +		A	X	X
Benzol		X	X	X
Benzol chloride		X	X	X
Benzyl alcohol		C	X	X
Biammonium phosphate		A	A	A
Bismuth carbonate		A	A	A
Bleaching lye		A	A	X
Boric acid aq sol+		A	A	A

CHEMICAL AGENTS		Product group		
		A	B	C
Brine		A	A	A
Bromine liquid		X	X	X
Butadiene		C	X	F
Butane		F	T	A
Butanol		A	A	C
Butyl acetate		X	X	X
Butyl alcohol (primary)		A	A	T
Butyl alcohol (secondary)		A	A	T
Butyl glycol		X	X	C
Butylene		X	T	T
Butyric acid		A	T	X
Calium bisulphate		A	T	C
Calcium carbide		A	A	A
Calcium carbonate		A	A	A
Calcium chloride		A	A	A
Calcium hydroxide		A	A	C
Calcium nitrate		A	A	A
Calcium sulphate		A	A	A
Carbon dioxide soloution		A	A	A
Carbon monoxide		A	A	A
Carbon sulphide		X	X	F
Carbon tetrachloride		X	X	C
Carbonic acid		A	A	A
Castor oil		T	T	A
Caustic soda		A	A	C
Cellulose acetate		T	T	A
Cerotic alcohol		A	T	T
Cetyl alcohol		A	T	T
Chlorine gas dry		A	X	X
Chlorine liquid		X	X	X
Chlorobenzol		X	X	X
Chloroform		X	X	X
Clorosulphuric acid		X	T	X
Chromic acid	10%	A	T	C
Chromic acid	25%	A	T	X
Chromic acid	50%	X	T	X
Citric acid		A	A	A
Copper chloride		A	A	A
Copper cyanide		A	T	F
Copper nitrate		A	A	C
Copper sulphate		C	T	A
Corn oil		F	T	A
Cottonseed oil		A	A	A
Cyclohexanol		A	X	F
Cyclohexanone		X	X	X
Decalin		A	A	A
Dextrose		A	A	A
Diazo salts		A	A	A
Dibutylphthalate		C	C	C
Dichloroethylene		X	X	X
Dichloromethane		X	X	X
Diethyl ether		C	C	A
Diethylene glycol		A	A	C
Dimethlammine		X	X	X
Dictylphthalate		C	C	F

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CHEMICAL AGENTS		Product group		
		A	B	C
Ethyl acrylate		X	X	T
Ethyl acetate		X	X	X
Ethyl alcohol		A	A	F
Ethyl chloride		X	X	X
Ethyl ether		C	C	A
Ethylene bromide		X	T	F
Ethylene glycol		A	A	C
Ferric chloride saturated		A	A	C
Ferrous chloride saturated		A	A	T
Formaldehyde		F	T	F
Formic acid		F	T	X
Fructose		A	A	A
Fruit pulp and juice		A	A	A
Fuel oil		C	A	F
Gallic acid		A	T	C
Gas exhaust acid		A	A	T
Gas exhaust with nitric vapours		A	A	T
Gas phosgene		X	X	T
Gas - burnt		A	A	T
Gas- coke oven		A	A	T
General fatty acids		C	T	A
Glucose		A	A	A
Glycerine aqueous		A	A	A
Glycol ethylic acetate		T	T	X
Heptane		A	A	F
Hexane		A	A	F
Hydrobromic acid		X	T	C
Hydrochloric acid	15%	A	T	F
Hydrochloric acid	38%	A	T	X
Hydrochloric acid aq sol +		A	T	T
Hydrochloric acid gaseous		A	T	F
Hydrocyanic acid		A	T	F
Hydrofluoric acid	10%	A	T	F
Hydroflouric acid	30%	F	T	F
Hydroflouric acid	75%	X	T	C
Hydrogene		A	A	A
Illuminating gas		A	A	T
Isoctane		A	A	F
Isopropyl acetate		F	X	C
Isopropyl alcohol		C	T	C
Lactic acid aq sol±		C	T	F
Lanolin		F	F	A
Lead acetate aq sol±		A	A	A
Linseed oil		C	T	F
Liquid phosgene		X	X	T
Lubricating oils		C	F	T
Magnesium chloride		A	A	A
Magnesium hydroxide		T	T	A
Magnesium sulphate		A	A	A
Maleic acid aq sol±		A	T	C
Mercuric chloride		A	A	A
Mercurous nitrate		A	A	A
Mercury		C	C	A
Methane dry		A	A	C

CHEMICAL AGENTS			Product group		
			A	B	C
Methanol			A	A	C
Methyl acetate			X	X	X
Methyl alcohol			A	A	C
Methyl bromide			C	T	T
Methyl chloride			C	T	X
Methyl ethyl ketone			C	C	X
Methylglycol acetate			T	T	X
Milk			A	A	F
Molasses			A	A	A
Monochloroacetic acid			X	T	X
Naphtalene			X	X	X
Nitric acid	10%		A	T	X
Nitric acid	25%		A	T	X
Nitric acid	40%		F	T	X
Nitric acid	60%		C	T	X
Nitrobenzol			X	X	X
N-heptane			X	X	X
Oleic acid			A	T	A
Olive oil			A	A	A
Ortophosphoric acid			A	A	X
Oxalic acid			F	T	A
Oxalic acid saturated			F	T	X
Ozone			A	T	A
Palmitic acid			X	T	A
Paraffin oil			A	A	F
Peracetic acid			A	T	T
Perchloric acid			A	T	X
Petrol refined			C	A	X
Petrol unrefined			C	A	C
Phenol aqueous	90%		X	X	X
Phosphine			A	A	T
Phosphoric dioxide			A	T	T
Phosphorus (yellow)			A	T	T
Photographic fixers			A	T	T
Picric acid	1%		A	T	X
Picric acid	>1%		X	T	T
Potassium acetate aq sol ±			A	A	X
Potassium bicarbonate			A	A	F
Potassium borate			T	T	A
Potassium bromate			A	A	A
Potassium bromide			A	A	A
Potassium carbonate			A	A	C
Potassium chloride			A	A	A
Potassium cyanide			X	T	C
Potassium hydroxide			A	A	A
Potassium nitrate			A	A	A
Potassium permanganate			A	A	A
Potassium sulphate			A	A	A
Propane gas			A	A	A
Propane liquid			A	A	A
Propargyl alcohol			A	T	T
Propyl alcohol			C	T	C
Selenic acid			A	T	T
Silicic acid			A	A	A

CHEMICAL AGENTS		Product group		
		A	B	C
Silicone oil		X	T	A
Silver-plating bath solution		A	T	T
Soap in aq sol±		A	A	A
Sodic lye aqueous		A	A	F
Sodium acetate		A	T	C
Sodium arsenite		A	T	T
Sodium benzoate		A	T	T
Sodium bicarbonate		A	A	F
Sodium bichromate		T	T	C
Sodium bisulphate		A	A	X
Sodium carbonate		A	A	X
Sodium chlorate		A	A	F
Sodium chloride		A	A	F
Sodium cyanide		A	T	C
Sodium flouride		A	A	F
Sodium hydroxide		A	A	C
Sodium hypochlorite		A	A	C
Sodium nitrate		A	A	A
Sodium perborate		F	A	T
Sodium phosphate acid		A	A	F
Sodium phosphate		A	A	A
Sodium sulphite		A	A	A
Stannic chloride		A	A	A
Stearic acid		A	T	T
Sugar syrup		A	A	A
Sulphur dioxide aqueous saturated		A	A	X
Sulphur dioxide dry		A	A	X
Sulphur dioxide liquid 100%		C	T	X
Sulphur trioxide		C	T	C
Sulphurate hydrogen		X	X	X
Sulphuric acid	10%	A	A	F
Sulphuric acid	75%	C	X	X
Sulphuric acid	90%	X	X	X
Sulphuric acid	96%	X	X	X
Tartaric acid		A	A	A
Terpentine		C	T	X
Terahydrofaun		X	X	T
Thiosulphate sodium		A	A	F
Toluene		X	X	X
Transformer oil		C	T	F
Tributyl phophate		X	X	X
Trichloroethylene		X	X	X
Triethanolamine		X	T	X
Trisodium phosphate		A	A	F
Uric acid		A	T	T
Urine		A	A	A
Vinly acetate		X	X	T
Wines		A	A	A
Xylene		X	X	X
Zinc acetate aq sol±		T	T	X
Zinc chloride		A	A	C
Zinc sulphate		A	A	C