



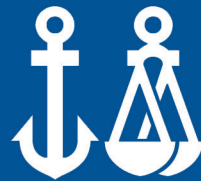
CavMac

AMIFLEX HOSE

Division of CavMac Hose Manufacturers

Large Bore Rubber Hoses & Coupling Systems

Abrasives & Dredging • Composite Hose • Multipurpose Hose • Chemical Hose • Amdraulic Hose



DNV

nsai



**ISO 9001:2000
QUALITY**

Products – Index

Oil & Petrochemical

Oil suction hose to BS EN 1765	11
--------------------------------------	----

Abrasives & Dredging

Dredger Separate Ring	11
Dredger Discharge	11
Sand Gravel & Mining	11
Suction & Discharge	11

Multipurpose Hose

Suction & Discharge	11
Fire Resistant Cover	11
Delivery Hose	11

Chemical Hose

Suction & Discharge	11
---------------------------	----

Special Products

Amdraulic Suction Hose	11
Amdraulic Delivery Hose	11
Peristaltic Pump Hose	11

Coupling Systems

Non Corrosive & Non Abrasive Applications	
Reduced Bore Types Low Pressure	11
Full Bore Types Medium - High Pressure	11
Highly Corrosive & Abrasive Applications	
Full Bore Types Low - Medium Pressure	11
Full Bore Types Medium - High Pressure	11
Other Types	
Wire-free cuffed ends	11

Rubber Qualities	11
-------------------------------	-----------

About Amiflex Hose

Amiflex Hose is a division of Cavmac Hose Mfg which is a leading independently owned manufacturer of large bore, custom designed hand built rubber hose for marine, offshore, dockside, dredging and heavy industry.

Experience

We supply many major industrial companies throughout the world and have gained a reputation for quality and reliability. Design and production are carried out by craftsmen. Many of our personnel have a wealth of skill building and marketing custom hose assemblies prior to joining the company.

Capabilities

Rubber hose is manufactured in sizes from 51mm to 1000mm id. Composite hose is manufactured in sizes from 25mm to 102mm id. In addition to the standard range of products, many specials for particular applications are constantly being designed, researched, developed and manufactured to customer requirements.

Quality assurance

Amiflex products are designed to meet the highest safety standards and are tested and certified to meet the following quality assurance requirements:

- Det Norske Veritas Quality System Certification to BS EN 1402
- Lloyd's Register Quality System Certification to BS EN 1765
- Pressure Equipment Directive Certificate No. PC/1081/002/A1/01

Manufacturing



Products range from solid wall rubber tubes and sleeves, textile reinforced discharge hoses; some with external glass fibre heat shields and internal and external wire armouring, smooth bore suction and discharge hoses and complex smooth bore heavy duty structures incorporating steel rings for high vacuum and external crush loading protection.

Oil & Petrochemical

Oil suction hose to BS EN 1765

Light to medium duty dockside use Lloyd's Register quality system certified

At a glance: A range of smooth bore light to medium duty hose assemblies for use on operations with good environment and handling conditions.

Example:



Left: 12" id oil hose. Right: 12" oil hose on bend a radius tests.

Specification: A600, A601, and A602: Oil suction and discharge hose to BS EN 1765: 2004 types S7, S10 and S15. (Replaces BS 1435: Part 1: 1987 types S7, S10 and S15)

Size: 2" (50mm) id to 12" (300mm) id

Length: Up to 19.5 mtrs (64 ft).

Temperature: -20°C (-4°F) to +82°C (180°F)

Lining: Smooth bore, mandrel built, **Nitrile** rubber lining to convey all grades of petroleum products, including crude oils and other liquid petroleum products having a maximum aromatics content of 40%. For 100% aromatic content a **Viton®** rubber lining is available.

Reinforcement: A single ply of breaker fabric to reinforce the lining, with multiple plies of synthetic cord fabric surrounding a fully rubber embedded high tensile steel wire helix. Hoses are supplied electrically continuous unless requested otherwise. Hoses are branded accordingly.

Pressure: Hoses are proof tested to 1.5 x working pressure. Test and material certificates are supplied as a matter of course.

Specification	Working pressure	Vacuum
A600	7 bars	-0.85 bars
A601	10 bars	-0.85 bars
A602	15 bars	-0.85 bars

Cover: Smooth, tough, **Neoprene** rubber compounded to resist abrasion, weathering and oil. A single ply of heavy gauge breaker fabric between the cover and main carcass bonds them securely together. For submarine duty a double cover and galvanised fittings are supplied as standard.

Couplings: Hoses are generally supplied assembled with built in vulcanised carbon steel nipples with slip-on welded or welding neck flanges to customers requirements. Alternatively swaged full bore fittings are available. Nipples can also be screwed if required to standards. Stainless steel, gunmetal or aluminium fittings are also available. Steel fittings can be galvanised, plated or painted if required. Refer to [Coupling Systems \(page xx \)](#) for further information.

Branding: Each hose is permanently branded at both ends to the following format including serial number and date of manufacture, embossed into the hose cover.

AMIFLEX HOSE			
BS EN 1765:1998			0000
(BS1435:PART 1:1987)			
S	FTP	ID	1/98
10	15	250	

Physical data: The following table shows a range of available sizes. Other sizes are available upon request.

A600: Oil suction and discharge hose to BS EN 1765				
Internal Dia		Nominal Weight	Outside Dia	Medium bend radius
inch	mm	kg/mtr	mm	mm
3	75	5.3	102	0.45
4	100	6.8	127	0.60
6	150	13.0	185	0.80
8	200	19.7	241	1.10
10	250	29.0	300	1.35
12	300	37.0	353	1.60
A601: Oil suction and discharge hose to BS EN 1765				
Internal Dia		Nominal Weight	Outside Dia	Medium bend radius
inch	mm	kg/mtr	mm	mm
3	75	5.9	104	0.45
4	100	7.5	130	0.60
6	150	14.1	188	0.80
8	200	21.1	244	1.10
10	250	31.2	302	1.35
12	300	39.0	356	1.60
A602: Oil suction and discharge hose to BS EN 1765				
Internal Dia		Nominal Weight	Outside Dia	Medium bend radius
inch	mm	kg/mtr	mm	mm
3	75	6.5	107	0.45
4	100	8.3	132	0.60
6	150	15.2	191	0.80
8	200	22.6	246	1.10
10	250	33.0	305	1.35
12	300	33.2	361	1.60

Variations:

Variations	Suffix	Application
Viton rubber	Viton	100% aromatic content petroleum products
Electrically Discontinuous	E/D	-
Submarine (Double cover, galvanised fittings)	SUB	Submarine duty

Abrasives & Dredging - Dredger Separate Ring

Dredger separate ring

Gimbal supports on suction dredgers

At a glance: Designed for use on outboard systems of suction hopper and trailing suction and discharge dredgers where gimbal supports are used. These dredger hoses or sleeves are capable of high angular deflection over short lengths

Example:



350mm and 650mm bore separate ring dredging sleeves with rubber and fabric flanges.

Right: Separate ring dredge hose on a gimbal joint.

Specification: A420: Dredger separate ring suction hose.

Size: 12" (254mm) id to 39.1/2" (1000mm) id

Length: Up to 12 mtrs (39 ft).

Lining: Smooth bore, mandrel built. Highly abrasion and cut resistant black **Natural** rubber lining in varying thickness' depending on the severity and life expectancy of the application.

Reinforcement: A substantial carcass of high strength synthetic cords and extremely robust separate rings, embedded in a solid D section of highly resilient rubber, giving maximum resistance to crushing and vacuum collapse.

Cover: **Neoprene** rubber for excellent resistance to abrasion, weathering, oils, grease and seawater.

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

Data: These weights are a guide only, based on 12mm thick lining and standard ring spacing.

Based on 12mm lining and standard ring spacing			
Bore size		Weight	Standard ring
inch	mm	kg/mtr	spacing mm
12	300	55	75
16	400	85	100
20	500	120	125
24	600	145	125
27.1/2	700	165	125
31.1/2	800	215	150
35.1/2	900	240	160
39.1/2	1000	275	170

Variations: Lining thickness can vary depending on the nature of the application. Thickness' are available in increments of 1.5mm commencing at 9mm. e.g. A420-10.5 = 10.5mm thick lining. A420-25 = 25mm thick lining.

Abrasives & Dredging - Dredger Discharge

Dredger Discharge

Floating pipeline discharge systems

At a glance: Designed for use as flexible connections in floating pipeline discharge systems. A range of pressure ratings and lining thicknesses are available depending on the application.

Example:



350mm and 650mm bore separate ring dredging sleeves with rubber and fabric flanges.

Specification: A422, A423 and A424: Dredger discharge hose.

Size: 10" (254mm) id to 39.1/2" (1000mm) id

Length: Up to 12 mtrs (39 ft).

Lining: Highly abrasion resistant black **Natural** rubber lining in varying thicknesses depending on the severity and life expectancy of the application.

Reinforcement: A substantial carcass of high strength synthetic cord plies embedded in highly resilient rubber, giving maximum resistance to pressure and flexing. This special reinforcement gives stability under pressure increasing the wear resistance of the lining.

Pressure: Hose assemblies are pressure tested on request.

Specification	Working pressure
A422	7 bars
A423	10 bars
A424	15 bars

Cover: Smooth **Neoprene** rubber for excellent resistance to abrasion, weathering, oils, grease and seawater.

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

Example:



Above: 16" id dredger discharge hose with integral fixed flanges.

Physical data: These weights are a guide only, based on 12mm thick lining and standard ring spacing. Refer to Amiflex for more information.

Based on A423-12			
Bore size		Nominal	Nominal
inch	mm	od mm	wgt kg/mtr
10	250	292	18
12	300	347	22
16	400	448	29
20	500	555	38
24	600	660	48
27.1/2	700	745	61
31.1/2	800	862	71
35.1/2	900	970	88
39.1/2	1000	1078	94

Example:



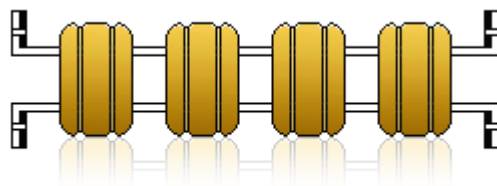
For flotation; foam collars are encapsulated with orange polyurethane and attached around the hose after manufacture.

Variations: There are three pressure ratings: A422 (7 bars), A423 (10 bars) and A424 (15 bars). Lining thickness' can vary depending on the nature of the application. Thicknesses are available in increments of 1.5mm commencing at 9mm e.g. A422-10.5 = 10.5mm thick lining. A424-25 = 25mm thick lining.

Flotation: Two methods are available if flotation is required.
Integral:



Black **Neoprene** rubber covered closed cell foam is vulcanised on to the outside of the hose and incorporates a bright orange identity spiral stripe.



Collars:

Closed cell foam collars are encapsulated with orange polyurethane and attached around the outside of the hose after manufacture.

Abrasives & Dredging - Sand Gravel & Mining

Sand Gravel & Mining Highly abrasive applications

At a glance:

Highly abrasion resistant hoses used in sand and gravel pits, dredging, mining, coal, grain handling and many more industries where abrasive products are transported.

Example:



Specification:

A402 and A412: Sand, gravel and mining hose.

Size:

2" (51mm) id to 36" (915mm) id

Example:



12" diameter preformed rubber elbow with integral flanges.

Length:

Up to and including: 12" (305mm) up to 19.5 mtr 14" (356mm) and above - 12 mtr.

Lining:

Two types of lining are available in thicknesses from 3mm to 12mm depending on the nature and severity of the application. A tan coloured gumstock 40° hard **Natural** rubber for fine air-borne abrasives (A402) and a black reinforced 60° hard **Natural** rubber for slurries and heavy abrasives such as gravel and rock (A412).

Reinforcement:

Multiple layers of synthetic cord and a single steel helix, giving minimum 3.5:1 safety factor and a minimum bend radius of up to 6x boresize.

Pressure:

Rated up to 10 bars working pressure. Higher working pressures are available on request. Hose assemblies are tested upon request.

Cover:

Corrugated for greater flexibility. Tough weather and abrasion resistant. Two types are available, black **Natural** rubber for normal use or black **Neoprene** rubber for more extreme external conditions. Smooth outer covers are available to accommodate external aluminium flanges.

Example:



Left: Gravel hoses with two piece split flanges. Right: D section ring and two-piece split flanges.

Couplings:

The following types are usually supplied where the abrasive material would excessively wear a steel hose tail:

[Integral flanges \(page xx \)](#) with steel backing plates.

[D section ring \(page xx \)](#) with two-piece split flanges

[Beaded end \(page xx \)](#) with one-piece captive flanges.

However, a heavy duty thick walled carbon steel hose tail, wired, strapped or [Built-in \(page xx \)](#) can be an option.

Refer to [Coupling Systems \(page xx \)](#) for further information.

Physical data:

Weights and dimensions are based on standard lining thickness shown.

Physical data: A402 and A412					
Bore size		Lining	Nom od	Nom wgt	Min bend
Inches	mm	mm	mm	kg/mtr	radius mm
2	51	3	68	2.2	203
3	76	6	102	5.0	305
4	102	6	128	6.0	406
5	127	7.5	156	8.9	508
6	152	9	188	12.9	610
7	178	9	213	14.9	820
8	203	9	204	17.8	1190
9	228	9	269	21.7	1350
10	254	9	294	23.9	1520
12	305	9	346	29.1	1800
14	356	9	401	37.1	2490
16	406	9	454	42.1	2900

Many other sizes are available up to 36" (915mm) id.

Example:



Variations:

Lining thickness' can vary depending on the nature of the application. Thicknesses are available in increments of 1.5mm commencing at 3mm. e.g. A402-3 = 40 deg hard gum stock, 3mm thick lining. A412-10.5 = 60 deg hard black, 10.5mm thick lining. If a neoprene cover is required for more extreme exposure conditions the letters 'CR' are added. e.g. A412-6-CR = 60 deg hard black, 6mm thick lining.

Abrasives & Dredging - Suction and Discharge

Suction and Discharge

Onboard dredgers and pontoon systems

At a glance: Designed for use on dredger systems in many positions both onboard dredgers and for pontoon discharge lines where a non-collapsible hose is required.

Specification: A427, A428 and A429: Dredger suction hose.

Size: 10" (254mm) id to 39.1/2" (1000mm) id

Length: Maximum 12 mtrs.

Lining: Highly abrasion resistant **Natural** rubber lining in varying thickness' depending on the severity and life expectancy of the application.

Reinforcement: Carcase of high strength synthetic textile cords and an extra heavy duty high textile steel wire helix fully embedded in highly resilient rubber giving maximum resistance to crushing and vacuum collapse.

Pressure: Hose assemblies are tested upon request.

Specification	Working pressure	Vacuum
A427	7 bars	Full vacuum
A428	10 bars	Full vacuum
A429	15 bars	Full vacuum

Cover: Corrugated neoprene rubber for excellent resistance to abrasion, weathering, oils, grease and seawater.

Couplings: The following types are usually supplied: [Integral flanges \(page xx \)](#) with steel backing plates or [Beaded ends \(page xx \)](#) with one-piece captive flanges. However, a heavy duty thick walled carbon steel hose tail, wired, strapped or [Built-in \(page xx \)](#) is also an option. Refer to [Coupling Systems \(page xx \)](#) for further information.

Physical data: These weights are a guide only, based on a 10 bars working pressure hose with a 12mm thick lining and standard ring spacing e.g. A428-12. Refer to Amiflex for more information.

Based on A428-12			
Bore size		Nominal	Nominal
inch	mm	od mm	wgt kg/mtr
10	250	304	27
12	300	361	33
16	400	462	44
20	500	575	57
24	600	680	72
27.1/2	700	765	92
31.1/2	800	886	107
35.1/2	900	994	132
39.1/2	1000	1108	141

Variations: There are three pressure ratings: A427 (7 bars), A428 (10 bars) and A429 (15 bars). Lining

thickness' can vary depending on the nature of the application. Thickness' are available in increments of 1.5mm commencing at 9mm e.g. A427-10.5 = 10.5mm thick lining. A429-25 = 25mm thick lining.

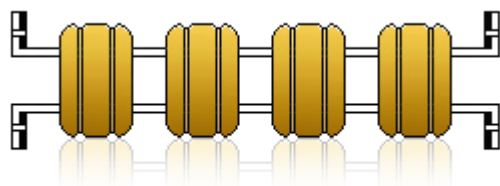
Flotation:

Two methods are available if flotation is required.

Integral:



Black **Neoprene** ubber covered closed cell foam is vulcanised on to the outside of the hose and incorporates a bright orange identity spiral stripe.



Collars:

Closed cell foam collars are encapsulated with orange polyurethane and attached around the outside of the hose after manufacture.

Multipurpose - Suction and Discharge

General purpose applications

At a glance: Air, cement, chemicals, chocolate, diesel, drill water, flour, fuel, glucose, grain, gravel, milk, oil, sand, seawater, solvents, sugar, water.

Example:



Left: Wired-in flanged hose tails on a 16" id water suction hose.

Right: A multipurpose hose with an internally swaged flanges.

Specification: A165, A166, A167 and A168.: Hand-built hard wall multipurpose suction and discharge hose.

Size: 2" (51mm) id to 36" (915mm) id

Length: Up to and including 12" (305mm) - 19.5 mtr. 14" (356mm) and above - 12 mtr.

Lining: Smooth bore, mandrel built.

Reinforcement: Multiple layers of synthetic cord plus a single steel helix, giving a minimum 3.5:1 safety factor and a minimum bend radius of 6 x bore size.

Pressure:

Specification	Working pressure	Vacuum
A165	3.5 bars	-0.85 bars
A166	7 bars	-0.85 bars
A167	10 bars	-0.85 bars
A168	15 bars	-0.85 bars

Cover: Abrasion and weather resistant **Neoprene** rubber.

Couplings: There are various methods of attachment depending on the working pressure and application:

- [Wired-in \(page xx \)](#) (clamped-in or strapped-in) hose tails
- [Built-in \(page xx \)](#) chemically bonded and vulcanised
- [Swaged \(page xx \)](#) (internal or external)
- [Integral flanges \(page xx \)](#) with steel backing plates
- [Beaded ends \(page xx \)](#) with one-piece captive flanges
- [Wire-free cuffed \(page xx \)](#) ends (plain or enlarged)

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

Physical data: The following table shows a range of available sizes. Other sizes are available upon request.

Approximate weight Kg/mtr					
Bore size		Specification			
Inches	mm	A165	A166	A167	A168
2	51	3	3	3	3
3	75	4	4	4	4
4	100	5	5	6	6
5	127	8	8	9	9
6	150	10	11	11	12
7	178	12	12	14	14
8	200	17	17	17	18
10	250	19	21	21	23
12	300	22	24	24	26
14	356	33	35	37	37
16	406	35	37	37	40
18	457	42	42	46	46
20	500	47	47	52	56
24	600	60	65	65	80

Many other sizes are available up to 36" (915mm) id.

Variations:

Rubber quality	Suffix	Application
Natural	NR	Water, medium abrasives
Nitrile	NBR	Fuels, oils
Neoprene	CR	Seawater, oil based mud
EPDM	EP	Chemicals, seawater
1/4" thick Natural	NRT	Heavy abrasives
Hypalon®	CSM	Chemicals
XLPE	XLPE	Chemicals, including solvents
Viton®	FPM	Special applications
WRCA EPDM	WRCA	Drinking water
White Natural FDA	WNR	Food products
White Neoprene FDA	WCR	Food products

Rubber qualities: [click here](#)

Multipurpose - Suction and Discharge

Special protection

At a glance: Fuel, oils, diesel, sea water, drill water, water, mud pump, chemicals, dry powders, cement, sand and gravel.

Example:



Hose covered with heat and fire resistant eGlass.

Specification: A165FR, A166FR, A167FR, and A168FR: Hand built hard wall multipurpose suction and discharge hose with a heat and fire resistant cover.

Size: 2" (51mm) id to 36" (915mm) id

Length: Up to and including 12" (305mm) - 19.5 mtr. 14" (356mm) and above - 12 mtr.

Lining: Smooth bore, mandrel built.

Reinforcement: Special high strength synthetic textile cord fabric layers, fully encapsulated in and bonded to rubber, spiralled at an optimum angle giving stability under high pressure and great flexibility. A steel wire spiral is fully embedded in the hose to give suction and crush resistance.

Pressure: The ratio of burst pressure to working pressure is not less than 3.3:1. All hose assemblies are pressure tested to 1.5 x working pressure. Capable of operating at -0.85 bars suction.

eGlass cover: The hose carcass is protected by a thick layer of material made from a specially formulated flame resistant **Neoprene** rubber, giving excellent resistance to oils, sunlight, weathering and abrasion. A non-toxic eGlass woven fabric layer is firmly bonded to the outside of the **Neoprene** rubber cover giving fire and heat resistance, allowing normal operation at temperatures of up to 600°C.

Couplings: There are various methods of attachment depending on the working pressure and application:

- [Wired-in \(page xx \)](#) (clamped-in or strapped-in) hose tails
- [Built-in \(page xx \)](#) chemically bonded and vulcanised
- [Swaged \(page xx \)](#) (internal or external)
- [Integral flanges \(page xx \)](#) with steel backing plates
- [Beaded ends \(page xx \)](#) with one-piece captive flanges
- [Wire-free cuffed \(page xx \)](#) ends (plain or enlarged)

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

Variations:

Rubber quality	Suffix	Application
Natural	NR	Water, medium abrasives
Nitrile	NBR	Fuels, oils
Neoprene	CR	Seawater, oil based mud
EPDM	EP	Chemicals, seawater
Rubber qualities: click here		

Multipurpose - Delivery Hose

General purpose applications

At a glance: Air, cement, chemicals, chocolate, diesel, drill water, flour, fuel, glucose, grain, gravel, milk, oil, sand, seawater, solvents, sugar, water.

Specification: A165, A166, A167 and A168: Hand built soft wall multipurpose delivery hose.

Size: 2" (51mm) id to 36" (915mm) id

Length: Up to and including 12" (305mm) - 19.5 mtr. 14" (356mm) and above - 12 mtr.

Lining: Smooth bore, mandrel built.

Reinforcement: Multiple layers of synthetic cord spiralled at a specific angle to give pressure resistance, flexibility and stability under pressure. Hoses have a bend radius when pressurised to 8 x bore and a minimum 3.5:1 safety factor.

Specification	Working pressure
A170	3.5 bars
A171	7 bars
A172	10 bars
A173	15 bars

Cover: Abrasion and weather resistant **Neoprene** rubber.

Couplings: There are various methods of attachment depending on the working pressure and application:

- [Wired-in \(page xx \)](#) (clamped-in or strapped-in) hose tails
- [Built-in \(page xx \)](#) chemically bonded and vulcanised
- [Swaged \(page xx \)](#) (internal or external)
- [Integral flanges \(page xx \)](#) with steel backing plates
- [Beaded ends \(page xx \)](#) with one-piece captive flanges
- [Wire-free cuffed \(page xx \)](#) ends (plain or enlarged)

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

Physical data: The following table shows a range of available sizes. Other sizes are available upon request.

Approximate weight Kg/mtr					
Bore size		Specification			
Inches	mm	A170	A171	A172	A173
2	51	1.5	1.5	1.5	1.5
3	75	2	2	2	3
4	100	3	3	4	4
5	127	4	4	5	5
6	150	5	5	6	6
7	178	6	6	7	7
8	200	7	8	9	9
10	250	10	10	12	14
12	300	11	13	15	17
14	356	12	15	17	19
16	406	18	22	28	35
18	457	21	28	33	39
20	500	23	31	39	47
24	600	33	42	52	66

Many other sizes are available up to 36" (915mm) id.

Variations:

Rubber quality	Suffix	Application
Natural	NR	Water, medium abrasives
Nitrile	NBR	Fuels, oils
Neoprene	CR	Seawater, oil based mud
EPDM	EP	Chemicals, seawater
1/4" thick Natural	NRT	Heavy abrasives
Hypalon®	CSM	Chemicals
XLPE	XLPE	Chemicals, including solvents
Viton®	FPM	Special applications
WRCA EPDM	WRCA	Drinking water
White Natural FDA	WNR	Food products
White Neoprene FDA	WCR	Food products

Rubber qualities: [click here](#)

Chemical - Suction and Discharge

Aggressive chemicals and fluids

- At a glance: 500 series have been specifically designed to convey a wide range of chemicals and aggressive fluids for long periods.
- Specification: A500, A501, A502, A503, A506 and A515: Hand built chemical suction and discharge hose.
- Size: 2" (51mm) id to 36" (915mm) id
- Length: Up to and including 12" (305mm) id - 19.5 metres long. 14" (356mm) id and above - 12 metres long.
- Lining: Smooth bore, mandrel built.
- Reinforcement: Multiple layers of synthetic cord plus a single steel helix, giving minimum 3.5:1 safety factor and a minimum bend radius of 6 x bore size.
- Pressure: 10 bars -0.85 bars. Higher working pressures are available. Hose assemblies are tested at request.
- Cover: See [Variations](#) for details
- Couplings: The following types of coupling systems can be specified where the fluid cannot come into contact with any metal parts:
- [Rubber lined \(page xx \)](#)
 - [Integrally flanged \(page xx \)](#)
- Alternatively, carbon steel or stainless steel fittings can be specified:
- [Wired-in or strapped-in \(page xx \)](#)
 - [Built-in fittings \(page xx \)](#)
- Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

Data: The following table shows a range of available sizes. Other sizes are available upon request.

Physical data: 500 series					
Bore size		Lining	Nom od	Nom wgt	Min bend
Inch	mm	mm	mm	kg/mtr	radius mm
2	51	3	73	2.5	306
3	76	3	99	3.7	456
4	101	3	125	4.9	606
5	127	3	150	6.0	762
6	152	3	180	8.37	912
7	178	3	206	9.62	1068
8	203	4.5	237	14.1	1218
9	228	4.5	265	17.6	1368
10	254	4.5	291	19.4	1524
12	305	4.5	342	23.1	1830

Many other sizes are available up to 36" (915mm) id.

Variations:

Specification	Rubber lining	Rubber cover
A500	Natural	Natural
A501	EPDM	EPDM
A502	Neoprene	Neoprene
A503	Hypalon®	Neoprene
A506	XLPE	EPDM
A515	Viton®	Neoprene

Special - Amdraulic Suction Hose

Very high pressure applications

At a glance: Rubber suction and discharge hose assemblies for high working pressure capable of handling a wide range of materials, chemicals, oils and solvents.

Example:



Specification: A714 and A716: Amdraulic suction hose.

Size: 2.1/2" (152mm) id to 12" (305mm) id

Length: Up to 12 mtrs.

Types: A714 = four spiral steel cord layers with a steel wire helix.
A716 = six spiral steel cord layers plus a steel wire helix.

Lining: Smooth bore, mandrel built. Several lining variations are available depending on the application and the type of material being handled.
See Variations for details.

Reinforcement: Special high tensile brass coated steel cord wire, fully encapsulated in and bonded to rubber, spiralled at an optimum angle giving stability under high pressure and great flexibility.

Pressure: Minimum burst pressures are given in the Physical data below.
It is recommended that the ratio of burst pressure to working pressure should not be less than 3:1. Hose assemblies are pressure tested to 1.5 x working pressure. Both specifications are capable of operating at -0.85 bars suction.

Cover: Smooth, wrapped finish in **Neoprene** rubber, giving excellent resistance to oils, sunlight, weathering and abrasion.

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

1. Male screw thread.
2. Victaulic groove.
3. Victaulic shoulder.
4. Flange (fixed or swivel).
5. Plain or weld prep end.

Method of attachment:

1. Swaged (internal or external).
2. Clamps and hose tails.

Physical data:

Amdraulic A714					
Bore size		Od	Nominal	Min bend	Burst
Inch	mm	mm	wgt kg/mtr	radius mm	pressure bars
6	152	192	20	900	170
8	203	243	28	1200	135
10	254	296	35	1500	110
12	305	335	42	1800	90

Many other sizes are available up to 36" (915mm) id.

Amdraulic A714					
Bore size		Od	Nominal	Min bend	Burst
Inch	mm	mm	wgt kg/mtr	radius mm	pressure bars
6	152	200	24	900	275
8	203	251	32	1200	205
10	254	304	40	1500	165
12	305	358	48	1800	135

Variations:

Rubber quality	Suffix	Application
Natural	NR	Water, medium abrasives
Neoprene	CR	Seawater, oil based mud
Nitrile	NBR	Fuels, oils
EPDM	EP	Chemicals, seawater

Special - Amdraulic Delivery Hose

Very high pressure applications

At a glance: Delivery hose assemblies for high working pressures capable of handling a wide range of materials, chemicals, oils and solvents.

Example:



Specification: A702, A704, 706 and 708: Amdraulic delivery hose.

Size: 2.1/2" (152mm) id to 12" (305mm) id

Length: Up to 12 mtrs.

Types: A702 = two spiral steel cord layers.
A704 = four spiral steel cord layers.
A706 = six spiral steel cord layers.
A708 = eight spiral steel cord layers.

Lining: Smooth bore, mandrel built. Several lining variations are available depending on the application and the type of material being handled.
See Variations for details.

Reinforcement: Special high tensile brass coated steel cord wire, fully encapsulated in and bonded to rubber, spiralled at an optimum angle giving stability under high pressure and great flexibility.

Pressure: It is recommended that the ratio of burst pressure to working pressure should not be less than 3:1. Hose assemblies are pressure tested to 1.5 x working pressure.

Cover: Smooth, wrapped finish in **Neoprene** rubber, giving excellent resistance to oils, sunlight, weathering and abrasion.

Couplings: Refer to [Coupling Systems \(page xx \)](#) for further information.

1. Male screw thread.
2. Victaulic groove.
3. Victaulic shoulder.
4. Flange (fixed or swivel).
5. Plain or weld prep end.

Method of attachment:

1. Swaged (internal or external).
2. Clamps and hose tails.

Physical data:

Amdraulic A702					
Bore size		Od	Nominal	Min bend	Burst
Inch	mm	mm	wgt kg/mtr	radius mm	pressure bars
2.1/2	63	87	4.5	760	220
3	76	100	5.4	915	180
4	102	126	7.2	1225	135
5	127	151	9	1525	110
6	152	176	10.8	1825	90
8	203	227	14.4	2440	65
10	254	278	18	3050	55
12	305	329	21.6	3660	45

Physical data:

Amdraulic A704					
Bore size		Od	Nominal	Min bend	Burst
Inch	mm	mm	wgt kg/mtr	radius mm	pressure bars
2.1/2	63	95	6.8	630	440
3	76	108	8.1	760	365
4	102	134	10.8	1020	275
5	127	159	13.5	1270	220
6	152	184	16.2	1520	180
8	203	235	21.6	2030	135
10	254	286	27	2540	110
12	305	337	14.7	3050	100

Physical data:

Amdraulic A706					
Bore size		Od	Nominal	Min bend	Burst
Inch	mm	mm	wgt kg/mtr	radius mm	pressure bars
4	102	142	14.4	820	410
5	127	167	18	1020	330
6	152	192	21.6	1220	275
8	203	243	28.8	1625	205
10	254	294	36	2035	165
12	305	345	43.2	2440	135

Physical data:

Amdraulic A708					
Bore size		Od	Nominal	Min bend	Burst
Inch	mm	mm	wgt kg/mtr	radius mm	pressure bars
4	102	150	18	615	550
5	127	175	22.5	765	440
6	152	200	27	915	365
8	203	251	36	1220	275
10	254	302	45	1525	220
12	305	353	54	1830	180

Variations:

Rubber quality	Suffix	Application
Natural	NR	Water, medium abrasives
Neoprene	CR	Seawater, oil based mud
Nitrile	NBR	Fuels, oils
EPDM	EP	Chemicals, seawater
Other lining materials are available upon request. Rubber qualities: click here		

Special - Peristaltic Pump Hose

Abrasive and corrosive fluids

At a glance: A Peristaltic pump hose is a smooth, rubber lined and covered hand-built hose; manufactured to order for specific machine types. It is designed so that the material being conveyed has no contact with any mechanical parts, essential when handling abrasive and corrosive fluids and slurries, up to pressures of 10 bars. The material is compressed against the hose wall by rotating shoes and, on recovery, material is drawn into the hose. The material is moved progressively along the hose and through the pump by the rotating shoes.

Specification: A430: Peristaltic pump hose.

Size and Lengths: Lengths and outside diameters may vary depending on machine types. Other sizes are available upon request.

Dimensions based on standard sizes		
Internal diameter mm	Outside diameter mm	Overall length mm
35	60	1500
50	80	1950
65	99	1500
80	120	2850
100	144	3275
Consult Amiflex for specialist advice on hose handling.		

Lining: Specially developed **Natural** rubber for high abrasion resistance and rebound resilience.

Reinforcement: Special high strength synthetic cord reinforcement layers totally embedded in rubber to give pressure and fatigue resistance.

Cover: A further development of the special lining for high abrasion resistance and rebound resilience. The surface is a perfectly smooth ground finish to control the critical outside diameter of the hose and prevent damage from the pump.

Action: When the hose is compressed, particles under the shoes are cushioned in to the hose wall. The hose then resumes its circular cross section without damage to the product or the hose wall.



Above: The circular cross section resumes its shape after being compressed under the rotating shoes.

Industries: Peristaltic pump hoses can be used in the following industries: Brewing, cement, ceramics, chemicals, chocolate, dairy products, food and beverage, glue, limestone, meat products, paint, paper making, pet food, pharmaceuticals, sugar refining, tobacco, water treatment and sewage processing.

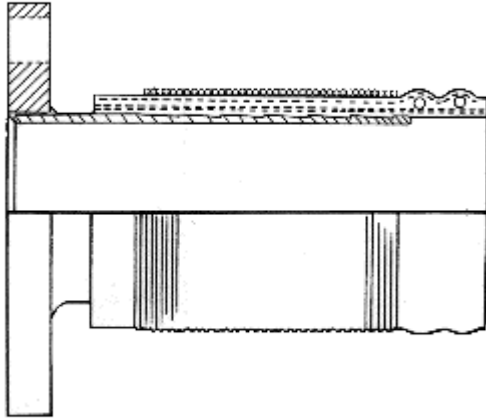
Performance: The benefits of using peristaltic pumps are numerous: Accurate metering, easy to sterilise, reversible flow, run dry without damage, change tubing to prevent cross-contamination, no valves to stick or wear, no seals to leak.

Coupling Systems

Non Corrosive & Non Abrasive Applications Reduced Bore Types-Low Pressure

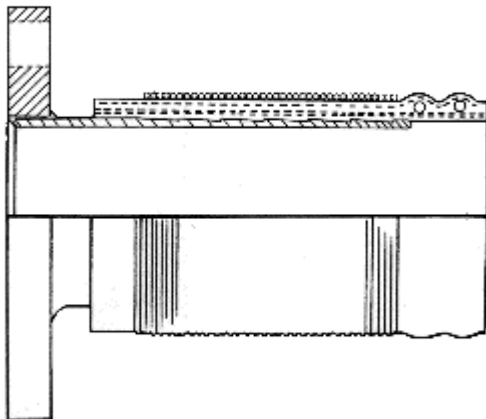
Serrated tail wired-in

Reduced bore coupling system for low pressure; non corrosive and non abrasive applications.



Ribbed tail, clamped or strapped-in

Reduced bore coupling system for low pressure; non corrosive and non abrasive applications.

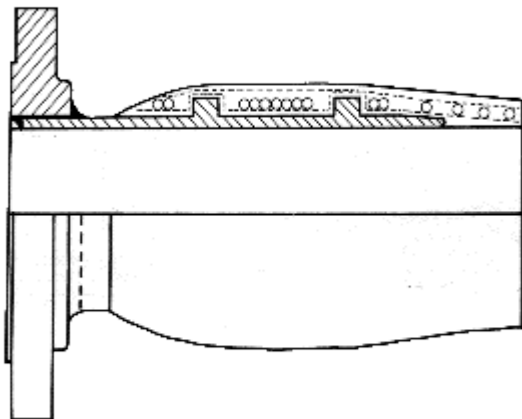


Coupling Systems

Non Corrosive & Non Abrasive Applications Full Bore Types - Medium-High Pressure

Built-in and chemically bonded

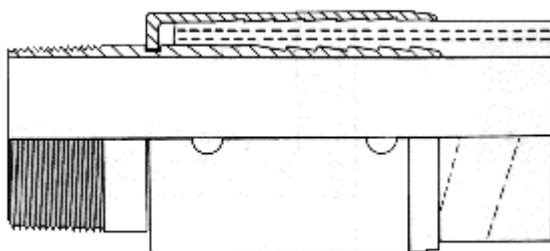
Full bore coupling system for medium to high pressure; non corrosive and non abrasive applications



Features: Built-in and chemically bonded couplings are designed for non corrosive and non abrasive applications. Metal fittings are built into the hose ends during manufacture to form an integral part of the assembly. No external wire or clamps are required as the fitting is chemically bonded into the hose and mechanically locked with wire which is embedded in the hose wall between the two cope rings, securely retaining the fitting in position.

Internal swaging

Full bore coupling system for medium to high pressure; non corrosive and non abrasive applications.



Features: Internally swaged couplings are designed for non corrosive and non abrasive applications. Modern industrial applications frequently require increasingly high operating pressures. In order to comply with this, swaging techniques have been developed for hose sizes beyond those commonly found in hydraulic systems. Internal swaging provides a full flow internal diameter free from steps at the hose tail.

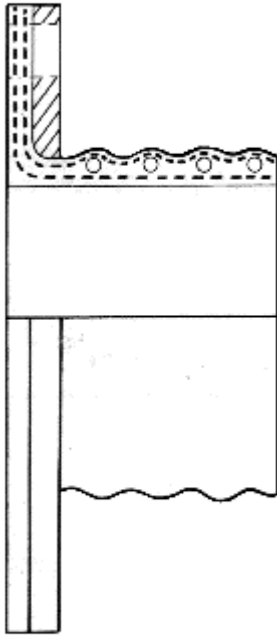
- Economic use of longer manufactured lengths to provide multiple shorter length units.
- Maximum security and retention at the highest pressures.
- Capable of working at pressures of up to 100 bars
- Slim and neat design provides a smooth snag-free external parallel surface over the ferrule and adjacent hose body

Coupling Systems

Highly Corrosive & Abrasive Applications Full Bore Types | Low-Medium Pressure

Integral rubber and fabric flanges

Full bore coupling system for low to medium pressure; corrosive and abrasive applications.



Features:

Reinforcing rubber and fabric plies, encapsulated in solid rubber continue at right angles against the hose body into a flange. The flange is supported by a steel backing plate. Elimination of a conventional hose tail allows the hose to begin flexing immediately behind the flange. This is useful for applications requiring a tight bend radius and a more uniform curvature. The backing plate is generally vulcanised to the rubber and fabric flange; creating a one-piece unit.

This system eliminates the necessity of a gasket yet provides a fluid tight seal. For hose information go to:

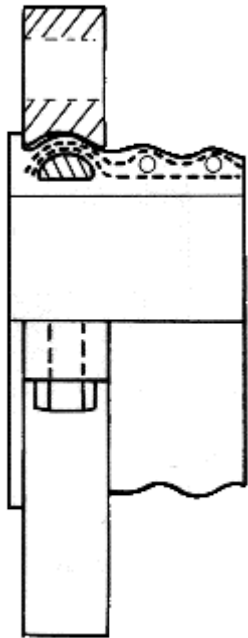
[Dredger Separate Ring \(page xx \)](#)

[Dredger Suction Hose \(page xx \)](#)

The system can be incorporated into any hose type where a smooth uninterrupted through bore is required. A rubber lining end-to-end ensures that the conveyant has no contact with metal parts.

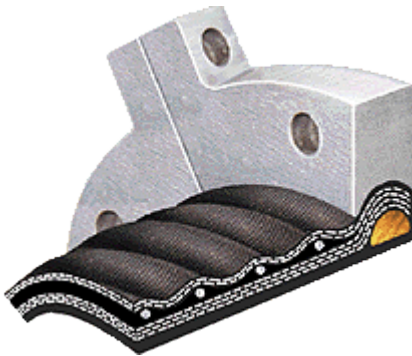
D section ring and two piece split flange

Full bore coupling system for low pressure; corrosive and abrasive applications.



Features:

A manganese bronze ring is fully encapsulated in rubber to form a lip seal. The flanges are machined internally to mate over this ring. Split flanges allow the hose to be adjusted or realigned easily. Side lugs with securing bolts allow the two halves of the flange to be tightened around the embedded ring to prevent movement, but allow bolt-hole alignment.



Flanges can be removed easily and reused repeatedly. Continuous rubber lining from end-to-end provides complete protection from corrosive and abrasive attack.

The [Beaded Flange \(page xx \)](#) is a further progression of this system which is designed to accommodate higher working pressures. For hose information go to:

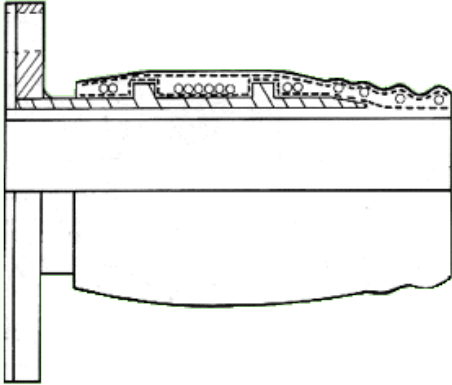
[Sand gravel and mining hose \(page xx \)](#) .

Coupling Systems

Highly Corrosive & Abrasive Applications Full Bore Types | Medium-High Pressure

Built-in rubber lined coupling

Full bore coupling system for medium to high pressure; corrosive and abrasive applications.



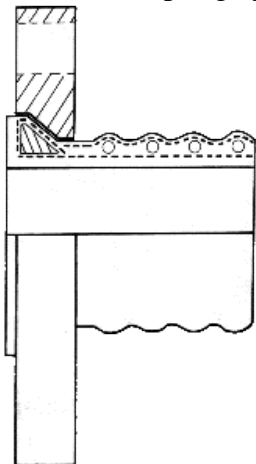
Features: Metal fittings are built and vulcanised into the hose ends during manufacture to form an integral part of the assembly. The fitting is encapsulated in rubber thus exhibiting a metal free lining. No external wire or clamps are required as the fitting is chemically bonded and mechanically locked into the hose. An embedded wire retains the fitting firmly in position between the two cope rings.

This system can be designed for the smallest possible pitch circle diameters and is recommended for very heavy duty applications.

For hose information go to: [Dredger suction hose\(page xx \)](#)

Beaded end captive one-piece flange

Full bore coupling system for medium to high pressure; corrosive and abrasive applications.



Features: A steel 'wedge' section ring is fully encapsulated in rubber and fabric to create a bead. A one-piece rotatable flange sits on the body of the hose against and on top of this bead. Elimination of a conventional hose tail allows the hose to begin flexing immediately behind the flange. This is useful for applications requiring a tight bend radius and a more uniform curvature. A beaded end is capable of significant end loading.

For hose information go to: [Sand, Gravel & Mining hose \(page xx \)](#)

[Dredger suction hose \(page xx \)](#)

[Multipurpose suction and discharge hose \(page xx \)](#)

Coupling Systems

Other Types - Wire-free cuffed ends

Plain cuffed end

Coupling system for low to medium to pressure; corrosive and abrasive applications.

Plain cuffed end: A process by which the embedding wire is terminated a set distance from the hose ends. Designed to accommodate a hose tail which can be banded, clipped-in, [wired-in or strapped-in \(page xx \)](#) Reinforcing fabrics can be protected from corrosion and contamination by rubber 'capping' the ends of the hose. The reinforcement is terminated a nominal distance from the end of the cuff giving the impression of a solid rubber tube.

Enlarged cuffed end

Coupling system for low to medium pressure; corrosive and abrasive applications.

Enlarged cuffed end: A process by which the hose ends are belled out to create a larger internal diameter than the bore of the hose to facilitate the insertion of fittings where a through bore assembly is required. Like a plain cuffed end, the embedding wire is terminated a set distance from the hose ends to accommodate a hose tail which can be banded, clipped-in, [wired-in or strapped-in \(page xx \)](#) Reinforcing fabrics can be protected from corrosion and contamination by rubber 'capping' the ends of the hose. The reinforcement is terminated a nominal distance from the end of the cuff giving the impression of a solid rubber tube.

Rubber qualities

Natural suffix -NR

Natural rubber [isoprene natural] has excellent resilience; superior resistance to tear and abrasion; very good tensile strength; excellent rebound elasticity and good flexibility at low temperatures. Poor resistance to heat, ozone, and sunlight; very little resistance to oil, gasoline, and hydrocarbon solvents.

Butyl

Butyl [isobutylene isoprene] has excellent weathering resistance, good physical properties and good heat resistant. Highly impermeable to air or other gases; resists aging and ozone; more resistant to organic chemicals [except aromatic compounds] than are most synthetic rubbers, but still relatively poor resistance to hydrocarbons and oils; exceptional resistance to dilute mineral acids and alkalis; good resistance to concentrated acids, except sulfuric and nitric.

XLPE suffix -XLPE

XLPE or Cross Linked Polyethylene has excellent resistance to a very wide range of solvents, chemicals, acids and oils [including aromatics].

EPDM suffix -EP

Introduction:

EPDM [ethylene propylene diene-terpolymer] has excellent ozone, heat, chemical and aging characteristics, poor resistance to petroleum based fluids but very good steam resistance.

General Properties:

Sunlight and weathering have little adverse effect on EPDM and retains its excellent retention of physical properties.

Chemical Properties:

EPDM resists attack acids and alkalies, detergents, phosphate esters, ketones and glycols. EPDM gives particularly outstanding service with hot water. EPDM should not be used in contact with hydrocarbon solvents and oils, chlorinated hydrocarbons or turpentine.

Mechanical Properties:

EPDM possess good tear resistance, even at elevated temperatures, and proves very durable when exposed to abrasion and other forms of mechanical abuse.

Electrical Properties:

EPDM has excellent electrical properties.

Hypalon suffix -CSM

Introduction:

Hypalon [chloro-sulphonated polyethylene] has excellent weathering, ozone and acid resistance, good heat and abrasion resistance and fair resistance to petroleum based fluids.

General Properties:

Hypalon is very resistant to attack by oxidising chemicals such as concentrated sulphuric acid and hypochlorite solutions. It is especially useful in contact with oils at elevated temperatures. Hypalon performs well with a wide range of chemicals and solvents.

Weathering Properties:

Hypalon shows a marked superiority for weathering over many other rubbers.

Flammability Properties:

Because of Hypalon's chlorine content it, is inherently more resistant to burning than are exclusively hydrocarbon polymers. Hypalon will ignite and burn slowly as long as a source of flame is present but, will stop burning once the flame is removed. Hypalon will burn in an actual fire situation.

Environment Properties:

Hypalon is not attacked by microorganisms and will not promote the growth of mould, mildew, fungus or bacteria. Hypalon is highly resistant to dirt pick-up, both from atmospheric deposits and from abrasive contact with soiling agents.

Mechanical Properties:

In resistance to abrasion, Hypalon will outperform natural rubber and many synthetic rubbers. It also displays good flex life and high impact resistance.

Temperature Properties:

Heat: Hypalon has excellent stability at elevated temperatures.

Cold: Hypalon retains its flexibility at temperatures down to appx -20°C

Electrical Properties:

The electrical properties of Hypalon are good and is a valuable insulator. Hypalon® is a registered trademark of DuPont Performance Elastomers.

Neoprene suffix -CR

Introduction:

Neoprene Perbunan-C [chloroprene] has excellent weather resistance, good oil resistance and physical properties and is flame retarding.

General Properties:

Resistance to deterioration from fats, oils, greases and many other petroleum based products. Neoprene was originally developed for an oil resistant substitute for natural rubber. Its use is limited, to non-aromatic hydrocarbons and it will not withstand chlorinated solvents.

Chemical Properties:

Neoprene shows little if any change in properties of appearance when exposed to alkalies, mineral acids or inorganic salt solutions. However, acid and salt solutions of a highly oxidising nature will cause surface deterioration and loss of strength.

Weathering Properties:

Resistance of Neoprene to sun and weather accounts for its excellent aging characteristics.

Temperature Properties:

Heat: Neoprene has a practical high temperature range for continuous service of 80°C to 95 °C [176°F to 201°F]. In this range, it displays good physical characteristics while resisting long-term heat degradation. Heat exposure above these limits does not soften or melt the rubber; rather, it causes the rubber to harden and lose its resilience. Cold: Neoprene shows little change in performance characteristics down to about -20°C to -25°C [-4°F to -130°F]. Below that point and down to about -40°C [-40°F].

Flammability Properties:

By virtue of its chlorine content Neoprene is inherently more resilient to burning than are exclusively hydrocarbon polymers. In common laboratory tests, Neoprene can be ignited with a naked flame but, will stop burning if the flame is removed. Natural rubber and many other synthetic rubbers, under the same conditions, will continue to burn. However, despite its superiority over these other materials Neoprene will burn in an actual fire situation.

Mechanical Properties:

Neoprene offers excellent resistance to abrasion, impact and damage from flexing and twisting. Its low degree of heat build-up during flexing assures minimum fatigue from dynamic operation. Its toughness guards against flex cracks and cut growth. These characteristic are retained over a wide range of destructive service conditions. Neoprene exhibits a relatively low degree of permanent deformation from compression.

Electrical Properties:

Neoprene's dielectric characteristics limit its use as an insulator to low voltage [600 volts] and low frequency [60 Hz] applications.

Environment Properties:

Neoprene can withstand long immersion in both fresh and salt water as well as direct burial in the earth. Insects, rodents and burrowing animals find no food value in Neoprene.

Nitrile suffix -NBR

Nitrile - Buna N [nitrile butadiene]. Known for excellent resistance to oils and solvents; resistance to oils is proportional to acrylonitrile content; not resistant to strong oxidizing chemicals, but fair resistance to ozone and UV; severely embrittled at low temperatures. **Nitrile** rubber is a copolymer of butadiene and acrylonitrile. Compared to natural rubber it has good oil resistance, good physical properties and moderate resistance to aromatics.

Polyacrylic

Polyacrylic is a high temperature resistant polymer, suitable for continuous operation at up to 150°C, with peaks up to 175°C. It has good resistance to flex fatigue, mineral oils, ozone and ultra violet light.

SBR

SBR [styrene butadiene] has good physical properties and abrasion resistance but poor resistance to petroleum based fluids.

Viton® Suffix -FPM**Introduction:**

Viton® [hexafluoropropylene vinildene fluoride] has excellent high temperature resistance, particularly in air and oil and very good chemical resistance.

General properties:

Viton® has excellent resistance to oils, fuels, lubricants, most mineral acids. It resists many aliphatic and aromatic hydrocarbons that act as solvents for other rubbers. Some of these are carbon tetrachloride, toluene, benzene and xylene. Viton® is not recommended for service in low molecular weight esters and ethers, ketones, certain amines, hot anhydrous hydrofluoric or chlorosulfonic acids.

Temperature Properties:

Heat: Viton® withstands high temperature and simultaneously retains its good mechanical properties better than most other elastomers. Oil and chemical resistance are also unaffected by elevated temperatures. Viton® remains usefully elastic at up to 204°C [400°F]. Cold: Viton® is generally serviceable in dynamic applications down to -18°C to -23°C [0°F to -10°F], although special formulations permit its use in dynamic applications down to -54°C [-65°F].

Flammability Properties:

Viton® like Neoprene and Hypalon synthetic rubber is a halogen containing polymer and thus is more resistant to burning than are exclusively hydrocarbon rubbers. In common laboratory tests, Viton® can be ignited with a naked flame but, will stop burning if the flame is removed. Natural rubber and many other synthetic rubbers, under the same conditions, will continue to burn. However, despite its superiority over these other materials Viton® will burn in an actual fire situation.

Mechanical Properties:

Considering Viton®'s exceptional heat and fluid resistance, it offers unusually good mechanical properties, is tough and long wearing.

Environment Properties:

Viton® has outstanding resistance to atmospheric oxidation, sunlight and weathering.

AMIFLEX HOSE

Division of CavMac Hose Manufacturers

Cavan Road, Cootehill, Co. Cavan, Ireland

Tel: +353 (0) 49 555 2340 Fax: +353 (0) 49 555 2312

Email: sales@abconireland.com Website: www.amiflex.cavmac.com