Superior by design engineered with confidence

Test-proven flexibles
guaranteed for product integrity.

RADCOFLEX

transfuel composite hose

description

Composite hose made from polypropylene fabrics and films with an abrasion resistant PVC coated fabric cover. Inner and outer wires are galvanised mild steel.

classification

Fuel and Oil Group 1 Hose

colour code

Green outer cover with yellow or marked white stripe.

principal applications

Transfuel is a suction and discharge hose mainly for the transfer of petroleum products by road, rail tankers and loading gantries.

manufacture

Complies with AS 2683 Type 1 Grade 1,2 and 3.A Group 1 hose where electrical continuity is maintained by both hose wires being securely connected to the fittings. The hose contains a barrier layer for 100% aromatic hydrocarbons.

temperature

Depending on the conveyant -30°C to +80°C.

standard production lengths

20 metres

product code TF___

specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
25	32	50	100	7	1.00
38	50	75	100	7	1.40
50	61	80	100	7	1.70
65	76	90	100	7	2.60
75	88	125	100	7	3.10
100	112	220	100	7	4.10

All pressure are based on a safety factor of 6:1

data sheet CM 013

transoil composite hose

description

Composite hose made from polypropylene fabrics and films with an abrasion resistant PVC coated fabric cover. Inner and outer wires are galvanised mild steel.

classification

Fuel and Oil Group 1 Hose

colour code

Black outer cover with yellow or marked white stripe.

principal applications

Transoil is especially suitable for the suction and discharge transfer of petroleum products in in-plant applications. It is an excellent hose for conveying tallow and high aromatic hydrocarbons.

manufacture

Complies with EN 13765 Type 3 and AS 2117 Type 3 Grade 1 & 2.

temperature

Depending on the conveyant -30°C to +80°C.

standard production lengths

20 metres

product codes TO___

specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
25	38	90	150	10	1.00
38	52	120	150	10	1.60
50	64	150	150	10	2.00
65	80	180	150	10	2.70
75	92	250	150	10	3.20
100	115	350	150	10	6.00
150	170	440	150	10	9.00
200	230	750	150	10	14.5

All pressure are based on a safety factor of 4:1

data sheet - CM 014

petrofuel light composite hose

description
Composite hose made from polypropylene fabrics and films with an abrasion resistant PVC coated fabric cover. Outer wire is galvanised mild steel and the inner wire is aluminium to reduce weight.

classification
Fuel and Oil Group 1 Hose.

colour code
Available in two alternate colours - please specify at time of ordering.
Green outer cover with buff stripe.
Yellow outer cover with buff stripe.

principal applications
Petrofuel Light is suitable for the same purpose as Petrofuel but is mainly used where the weight of the hose is critical. Crush resistance is not as good as with the Transfuel hose.

manufacture
Complies with AS 2683 Type 1 Grade 1,2 & 3 and EN 13765 Type 1 and specially developed to meet the Australian Institute of Petroleum's AIP-CP 27 Code of Practice. The hose contains a barrier layer for 100% aromatic hydrocarbons.

assemblies
Petrofuel Light hose assemblies are fitted with our in-house developed OHMSEAL/OHMLOCK fittings, specially constructed to allow both inner and outer spiral wires of the hose to be positively connected to the fittings for electrical continuity. This is markedly superior to the use of an inconsistent separate earthing wire.

temperature
Depending on the conveyant -20°C to +80°C.

special production lengths
20 metres

product code
PFLG___ PFLY___

specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
38	50	75	100	7	0.80
50	61	80	100	7	1.10
65	76	90	60	4	1.80
75	88	115	60	4	2.20
100	112	200	60	4	2.80

All pressure are based on a safety factor of 6:1

data sheet - CM 011

transchem composite hose

description
Composite hose made from polypropylene fabrics and films with an abrasion resistant PVC coated fabric cover. Inner wire of polypropylene coated steel wire and an outer wire of galvanised mild steel.

classification
Chemical Group 2 Hose.

colour code
Grey outer cover with red or marked white stripe.

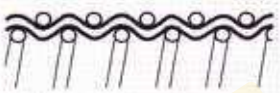
manufacture
Complies with EN 13765 Type 3.

principal applications
Transchem is suitable for the transfer of acids and alkalines.
Note: Electrical continuity can be maintained for this hose by baring the inner wire (ie removing the polypropylene coating) near the fitting to allow positive connection of the wire to the fitting. This process however may introduce a potential corrosion path to the inner wire.

special applications
Transchem can be supplied with a stainless steel 316 outer wire for applications involving corrosive atmospheres and splash. This hose is called Transchem-S.

temperature
Depending on the conveyant -30°C to +80°C.

standard production lengths
20.00 metres



specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
25	38	90	150	10	1.00
38	52	125	150	10	1.60
50	80	160	150	10	1.80
65	76	180	150	10	2.60
75	92	225	150	10	3.00
100	120	350	150	10	5.40
150	170	440	150	10	9.00
200	235	750	150	10	14.5

All pressure are based on a safety factor of 4:1

data sheet - CM 020

solchem composite hose

description

Composite hose made from polypropylene fabrics and films with an abrasion resistant PVC coated fabric cover. Inner wire of stainless steel 316 and an outer wire of galvanised mild steel.

classification

Chemical Group 3 Hose.

colour code

Orange outer cover with blue or marked white stripe.

manufacture

Complies with EN 13765 Type 2.

principal applications

Solchem is suitable for the transfer of various acids and alkalines where the conveyant may be corrosive to a galvanised inner wire. Electrical continuity is maintained by the hose wires being securely connected to the fittings.

special applications

Solchem can be supplied with a stainless steel 316 outer wire for applications involving corrosive atmospheres and splash. This hose is called Solchem-S.

temperature

Depending on the conveyant -30°C to +80°C.

standard production lengths

20 metres

product code SC___

specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
25	38	90	150	10	0.90
38	52	120	150	10	1.60
50	64	150	150	10	1.80
65	80	180	150	10	2.50
75	92	210	150	10	2.90
100	120	340	150	10	5.30

All pressure are based on a safety factor of 4:1

data sheet - CM 021

transdock composite hose

description

Composite hose made from heavy duty polypropylene fabrics and films with a double layer of abrasion resistant PVC coated fabric cover. Inner and outer wires are galvanised mild steel.

classification

Fuel and Oil Group 1 Hose

colour code

Royal Blue outer cover with marked white stripe.

principal applications

Transdock is suitable for the heavy duty suction and discharge transfer of petroleum products in road and rail tanker, dockside and ship to shore applications.

In general, composite hose is not recommended for conveying products with a fluid viscosity in excess of 400cSt (400mm²/sec) and a flow velocity in excess of 7mtr/sec (23 feet/sec).

manufacture

Complies with EN 13765 Type 3 and AS 2117 Type 2 Grade 1 & 2. A Group 1 hose where electrical continuity is maintained by both hose wires being securely connected to the fittings.

assemblies

All dock hose assemblies are supplied with factory fitted externally swaged end connections.

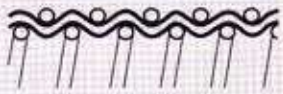
temperature

Depending on the conveyant -30°C to + 80°C.

standard production lengths

20 metres

product codes TD___



specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
100	120	430	200	14	7.50
150	175	550	200	14	11.00
200	240	750	200	14	16.00
250	290	920	200	10	22.00

All pressure are based on a safety factor of 4:1

data sheet CM 015

solflon composite hose

description

Composite hose made from polypropylene fabrics and films with an abrasion resistant PVC coated fabric cover. The hose has an inner wire of stainless steel 316 and is lined with layers of PTFE film. The outer wire is galvanised mild steel.

classification

Chemical Group 3 Hose.

colour code

Red outer cover with white stripe.

manufacture

Complies with EN 13765 Type 2.

principal applications

Solflon is suitable for the transfer of the most aggressive chemicals and searching solvents.

The PTFE liner has a low co-efficient of friction making the hose also suitable for the conveyance of high viscosity products such as paint.

Electrical continuity is maintained by the hose wires being securely connected to the fittings.

special applications

Solfl on can be supplied with a stainless steel 316 outer wire for applications involving corrosive atmospheres and splash. This hose is called Solflon-S.

temperature

Depending on the conveyant -30°C to +80°C.

standard production lengths

20 metres

product code SFG___

specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
25	38	90	150	10	0.90
38	52	120	150	10	1.60
50	64	150	150	10	1.80
65	80	180	150	10	2.50
75	92	210	150	10	2.90
100	120	340	150	10	5.30
150	170	440	150	10	8.20
200	230	600	150	10	11.60

All pressure are based on a safety factor of 4:1

data sheet - CM 024

chemdock composite hose

description

Composite hose made from heavy duty polypropylene fabrics and films with a double layer of abrasion resistant PVC coated fabric cover. Inner and outer wires are stainless steel 316.

classification

Chemical Group 3 Hose

colour code

Royal Blue outer cover with marked white stripe.

principal applications

Chemdock is suitable for heavy duty suction and discharge of bulk chemicals in road and rail tanker, dockside and ship to shore applications.

manufacture

Complies with EN 13765 Type 3 and AS 2117 Type 2 Grade 1 and 2 Electrical continuity is maintained by both hose wires being securely connected to the fittings.

assemblies

All dock hose assemblies are supplied with factory fitted externally swaged end connections.

temperature

Depending on the conveyant - 30°C to +80°C.

standard production lengths

20 metres

product codes CD___

specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars	weight per metre kg / M
100	120	430	200	14	7.50
150	175	550	200	14	11.00
200	240	750	200	14	16.00
250	290	920	200	10	22.00

All pressure are based on a safety factor of 4:1

data sheet - CM 022

transheat composite hose

description

Composite hose made from polyester and polyamide fabrics and films with an outer cover of fibreglass. Inner and outer wires are galvanised mild steel.

classification

Heat Group 6 Hose

colour code

White outer cover with word 'Transheat' stencilled.

manufacture

Transheat is suitable for temperatures to +180°C, however, pressure ratings should be reduced by 50% when temperatures exceed 100°C.

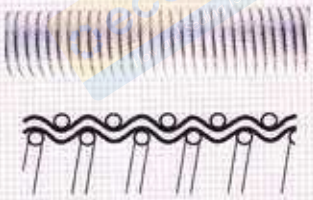
principal applications

Ideal for the transfer of hot viscous petroleum by-products such as tar and bitumen.

standard production length

20 metres

product code TH___



specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars
25	38	100	150	10
38	50	150	150	10
50	65	200	150	10
65	75	250	150	10
75	90	280	150	10

All pressure are based on a safety factor of 4:1

data sheet - CM 025

transgas composite hose

description

Composite hose made from polyester and polyamide fabrics and films. Inner and outer wires are stainless steel 316.

classification

Gas Group 4, 5, 7 Hose

colour code

White outer cover with green stripe.

manufacture

Complies with AS 1869 Class E and EN 13766 Class A Type 1.

principal applications

Transgas hose is suitable for the transfer of gases but can be used on any of the products listed under Group 4, 5, and 7 of the Resistance Chart. Ideal for transfer of organic solvents and alkalines.

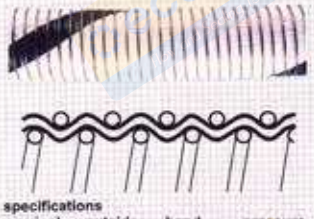
temperature

Temperature range from -50°C to +100°C with limitations on working pressure over 50°C.

standard production lengths

20 metres

product code TG___



specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars
25	38	100	380	26
38	50	150	380	26
50	65	150	380	26
65	80	190	380	26
75	93	230	380	26
100	120	350	380	26

All pressure are based on a safety factor of 4:1

data sheet - CM 026

heatflex - e composite hose

description

Composite hose made from polyester and polyamide fabrics and films, fibre glass cloth with an abrasion resistant PVC coated fabric outer cover. The hose has inner wire of galvanized mild steel and lined with layer of ECTFE. The outer wire is galvanized mild steel.

classification

Heat Group 6 Hose

colour code

Red outer cover.

temperature

Heatflex - e is suitable for temperatures to +150°C, however, pressure ratings should be reduced by 50% when temperatures exceed 100°C.

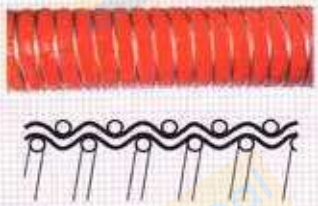
principal applications

Ideal for the transfer of hot viscous petroleum by-products such as tar and bitumen.

standard production length

20.00 metres

product code TH___



specifications

nominal bore mm	outside dia mm	bend radius mm	pressure nominal psi	pressure nominal bars
25	38	120	150	10
38	50	150	150	10
50	65	200	150	10
65	75	250	150	10
75	90	280	150	10

All pressure are based on a safety factor of 4:1

data sheet - CM 035

hose styles & standards composite hose

hose styles & selections

Composite hoses are manufactured on the mandrel wrapped principle. The hose consists of an inner wire spiral upon which layers of fabric and film are wrapped, and bound with an external wire spiral. The tension between each other of the wire spirals gives the hose its pressure capability.

The heart of a composite hose is in the materials selection. Fabric and fi lm materials used include Polypropylene, Polyester and Polyamide. The wire helixes can be of galvanised steel, aluminium, stainless steel or polypropylene coated steel.

The final selection of the materials depends upon the application for the hose.

For ease of identification, Radcoflex hoses incorporate either a white striped marked with thehose name or a coloured stripe which denotes the material composition of the hose, as follows:

YELLOW	Inside wire is galvanised mild steel with a polypropylene bore.
RED	Inside wire is polypropylene coated steel with a polypropylene bore.
BLUE	Inside wire is stainless steel with a polypropylene bore.
BUFF	Inside wire is aluminium with a polypropylene bore.

GREEN	Inside and outside wires of stainless steel with a bore of polyester / polyamide materials.
BLACK	A hose of special make-up.

Composite hoses are classified under a group number which refers to their chemical resistance suitability.

standards and tolerances

Radcoflex Composite Hoses are manufactured in accordance with generally recognised industrystandards including European Standards EN 13765 and EN 13766, and Australian Standards AS 2117 and AS 2683, and Australian Institute of Petroleum Code of Practices.

Our Composite Hoses are tested in accordance with International Standard ISO 1402, British Standard BS 5173 and Australian Standard AS 1180.

Composite hose is generally ordered by its nominal bore (inside diameter) size.

The working pressure stated in the data sheets are at ambient temperature (20°C).

Radcoflex reserves the right to change the specification of any product and/or withdraw it from its range of products without notice.

data sheet - CM 001

end connections
composite hose assemblies

end connections

Radcoflex is able to supply a full range of end connections to suit our composite hoses such as male and female quick release couplings, flanges, male threads and female swivel nuts. Other special fittings to customers specifications are available on request.

pressure ratings

Quick release couplings (camlocks) may not have a pressure rating as high as the hose to which they are attached. The applicable pressure rating for the completed assembly will be the lower of the hose or the fitting. Please check table below for the pressure rating of quick release couplings.

quick release couplings max. pressure									
pressure		fitting diameter (mm)							
psi	kpa	25	32	38	50	65	75	100	150
50	350			P	P		P		
75	525								AB
100	700	P						AB	
125	875						AB		
150	1050					AB		S	
200	1400					S	S		
250	1725	ABS	ABS	ABS	ABS				

materials codes

A - aluminium B - bronze
P -- polypropylene S - stainless steel 316

attachment methods

Radcoflex engineers have developed the most modern machines for the attachment of end fittings including hydraulic external power swaging and mechanical high tension wire whipping machines.

fuel hose fittings

We have developed special OHMSEAL and OHMLOCK camlocks whereby both the inner and outer wire of the hose is locked directly to the camlock with grub screws. This ensures positive electrical contact that can be seen and easily checked without disconnecting or degassing the assembly. The OHMSEAL fotting is for use on swaged attachments and the OHMLOCK is for wire whipped attachments.

TYPICAL WIRE WHIPPED ATTACHMENT

TYPICAL SWAGED ATTACHMENT

data sheet - CM 028

typical end connections
composite hose assemblies

TYPICAL WIRE WHIPPED ATTACHMENT

TYPICAL SWAGED ATTACHMENT

materials codes

A - aluminium B - bronze C - carbon steel P - polypropylene S - stainless steel 316

THREADED PIPE

THREADS BSP, NPT with HEX NIPPLE
MATERIALS - A, B, C, S

LIFESAVER - PIPE END SCH 40

MATERIALS - C, S

MALE QUICK COUPLING

MATERIALS - A, B, P, S

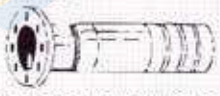
HEX NIPPLE

THREADS BSP, NPT
MATERIALS - C, S

FEMALE QUICK COUPLING

AVAILABLE IN STRAIGHT & BENT STYLES
MATERIALS - A, B, P, S

FIXED FLANGE



STANDARDS BST, ANSI, DIN, JIS, NT
MATERIALS - C, S

LOOSE SWIVEL

STYLE - WITH LUGS OR HEX THREADS BSP
MATERIALS - A, B, C, S

FLOATING FLANGE

STANDARDS BST, ANSI, DIN, JIS, NT
MATERIALS - C, S

data sheet - CM 029

hose assembly testing
composite hose

hydrostatic testing

Composite hoses should be hydrostatically tested with water at least once every twelve (12) months.

The test pressure should be no greater than 1.5 times the proposed working pressure of the assembly as determined by the lower of the assembly's actual working pressure or the maximum working pressure as listed in the product data sheets (see note below).

Some Standards and Codes call for a lower test pressure and where the assembly is operating under this code, the lower test pressure calculation should be used. For example, the Australian Institute of Petroleum Code of Practice CP27 calls for testing at only 1.25 times the nominated working pressure.

note: Where the hose and end coupling working pressures differ, the maximum working pressure of the assembly is that of the lowest rated component - see also 'end connections composite hose assemblies' data sheet.

Elongation is not a satisfactory way of judging deterioration of a composite hose, as by its design some elongation is to be expected.

electrical continuity test

Fuel and Oil Group 1 composite hoses should be tested for correct electrical continuity at least once every six (6) months or in accordance with relative industry standards. By laying the hoses on dry ground and testing with an approved electrical measuring device, hoses can be checked that they meet the electrical continuity specifications shown on the original Radcoflex tag attached to the hose. Hoses not meeting these specifications should be retired from service and returned to Radcoflex for possible repair.

The electrical continuity of other composite hoses with inner and outer wire can also be checked if requried however, the electrical continuity of Transchem cannot be checked due to the polypropylene coating on the inner wire. To check Transchem, the inner metal of the wire would need to be exposed (from the polypropylene cover), which would create an opening for future corrosive attack.

data sheet - CM 031

rope lagging
composite hose

Our range of composite can be supplied polypropylene rope lagged for insulation or to protect the hose from abrasion. The table on the right lists the standard polypropylene rope sized and the weight added to the composite hose when lagged.

nominal diameter mm	rope diameter mm	lagging weight kg / M
25	8	0.50
38	8	0.70
50	8	0.80
65	10	1.25
75	10	1.50
100	12	2.00
125	12	2.10
150	12	2.90
200	15	3.90
250	15	4.80

data sheet - CM 032

care and maintenance
composite hose

installing

Incorrect installation of a hose assembly will create stresses within the assembly and result in a premature failure. The following guidelines should be followed:

- hose assemblies must not be twisted either during installation or in use
- hoses must not be overflexed or bent into a smaller diameter than the specified minimum bend radius
- hose assemblies should be installed so that flexing always occurs in the same plane
- it is recommended that flanged assemblies have a floating flange on one end for easier installation and to reduce the possibility of twist

handling

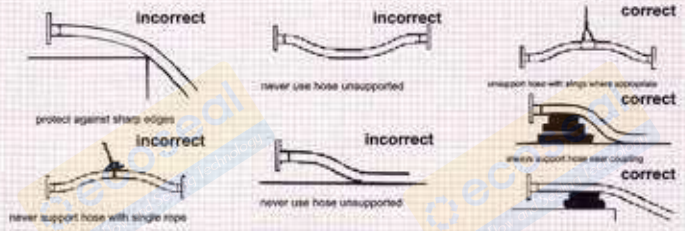
Hoses should be stored in a straight line on solid supports or racks.

Large bore hoses should be carried on a dollie or moved by crane. Hoses must not be supported by a single rope or wire. A wide belt sling should be used, supporting the hose at least every 3 metres.

Avoid curvatures that are less than the minimum bend radius of hose.

Do not allow sharp bends adjacent to the end connection fitting - this area is the weakest spot in any type of hose. Support the hose.

Hoses should not be dragged along the ground or over guard rails. Do not allow the hose to chafe (rub) against hard surfaces and/or sharp edges. If unavoidable, consider having the hoses rope lagged.



data sheet - CM 030

care and maintenance
composite hose

cleaning

Before storage, hoses should be drained and flushed with clean water to remove dangerous vapours, the exception being hoses which have been used for conveyants such as sulphuric acid when dilution with water could leave a very corrosive residue. In such instances, drain dry.

Hoses must be electrically earthed during cleaning operations.

Hoses may be cleaned using low pressure air, however hoses must be open ended to avoid excessive pressure build up. Steam is not recommended for cleaning as the excessive temperature involved (over 100°C) will damage the hose fabrics.

inspection

inspect hose for visual damage at least every six months, more often if experience demands it. Look for:

1. Weakening of the hose adjacent to the end fitting
2. Cuts and abrasions on the fabric cover
3. Abrasion of the outer wire
4. Displacement of the outer wire - identified by differing widths between each round of wire over the length
5. Dents, kinks or twisted sections

testing

Composite hose assemblies should be hydrostatically tested at least once every twelve (12) months and electrical continuity tested, where applicable, at least once every six(6) months. See 'hose assembly testing' data sheet.

data sheet - CM 030

photos
composite hose

data sheet - CM 002