



PRODUCT DATA SHEET

Monarflex BesoGuard ES 0.9

Reinforced Flexible PVC/EVA Co-polymer Membrane

Application

Monarflex BesoGuard is part of Icopal's Monarflex containment systems. It has excellent fuel and oil resistance and is used for secondary containment of fuel and oil tanks.

Description

Monarflex BesoGuard is a reinforced flexible PVC/EVA Elvaloy and has excellent puncture resistance and tensile strength. The membrane is coloured black on the upper and underside surface.

Performance and Properties

Roll Length	25m
Roll Width	2.12m
Weight	1,150gm ²
Thickness	0.9mm
Tensile Strength	1600N/50mm
Tear Resistance	>400N
Elongation	15%
Peel Strength Overlap	≥250N/50mm

Installation Details

Jointing

Joint sheets by Icopal Monarflex Geomembranes Ltd. Twinny welding system with laps of not less than 150 mm.

Penetrations

All pipe and duct penetrations to be sealed using Blackline preformed top hats complete with stainless steel jubilee clips.

Concrete structures to be joined using GRP Battening to Icopal Monarflex Geomembranes Ltd standard working details.

All materials to be installed by Icopal Monarflex Geomembranes Ltd to IS9002. Protection to geomembrane prior to overlaying construction/backfill required with a suitable geotextile protection fleece by Icopal Monarflex Geomembranes.

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Quality Assurance

Monarflex Besoguard ES 0.9 is manufactured under a Quality Management System approved to ISO 9001:2000 by BSI Quality Assurance.

Typical Specification

Monarflex Besoguard ES 0.9 as manufactured by Monarflex Geomembranes Ltd, PO Box 6318, Leighton Buzzard LU7 6AN. The containment membrane is to be installed and sealed in accordance with the manufacturer's instructions.

NBS Specification (available separately)

Monarflex Besoguard containment membrane is specified using the following:

Clauses: N/A

Product: Monarflex Besoguard ES 0.9 membrane

Manufacturer: Monarflex Geomembranes Ltd, PO Box 6318, Leighton Buzzard LU7 6AN.

Tel: 08444 123 175 Fax: 01525 384 477.

Chemical Resistance overleaf.....



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Chemical Resistance Guideline

Ratings:

A = Fluid has little to minor effect
 B = Fluid has minor to moderate effect
 C = Fluid has severe effect
 T = No test data – likely to have minor effect
 X = No test data – likely to have severe effect

Material	Besoguard PS 40.080	Material	Besoguard PS 40.080	Material	Besoguard PS 40.080	Material	Besoguard PS 40.080
Acetic Acid	A	Barium Carbonate	T	Chlorobenzene	X	Ethylene Dichloride	X
Acetic Acid	X	Barium Chloride		Chloroform	X	Ethylene Glycol	T
Acetic Acid	X	Barium Hydroxide	T	Chlorosulfonic Acid	X	Ethylene Oxide	A
Acetic Anhydride	X	Barium Sulfate	T	Chrome Aluminum	T	Ferric Chloride	T
Acetone	C	Beer		Chromic Acid	X	Ferric Nitrate	T
Alkyl Alcohol	T	Benzene	B	Chromium Trioxide	X	Ferrous Chloride	T
Alkyl Chloride	X	Benzene	B	Citric Acid	T	Ferrous Sulfate	T
Aluminum Chloride	T	Benzene	7 days	Copper Chloride/fluoride	T	Fluosilic Acid	T
Aluminum Fluoride	T	Benzoic Acid	T	Copper Nitrate	T	Formaldehyde	B
Aluminum Nitrate		Bismuth Carbonate	T	Copper Sulfate	T	Formic Acid	X
Aluminum Sulfate	T	Borax Solutions	T	Corn Oil	T	Furfural	X
Ammonia		Boric Acid	T	Cottonseed Oil	T	Fertilizer (liquid)	A
Ammonia Carbonate	T	Bromic Acid	X	Crude Oil	T	Gallic Acid	X
Ammonium Chloride	T	Bromine Anhydrous	X	Cyclohexane	T	Gasoline	A
Ammonium Fluoride	T	Butanol		Cyclohexanol	T	Gasoline	A
Ammonium Hydroxide	T	Butyl Acetate	X	Cyclohexanone	X	Gelatin	
Ammonium Nitrate	T	Butyl Alcohol	T	DBP	C	Glucose	T
Ammonium Phosphate	T	Butyl Phenol	X	Dextrine	T	Glycerine	T
Ammonium Sulfate	T	Butyric Acid	X	Dibutyl Phthalate	X	Glycolic Acid	
Ammonium Sulfide	T	Calcium Bisulfate	T	DIDP	A	Glycolhexamine	
Amyl Acetate	X	Calcium Carbonate	T	Diesel Fuel	A	Hexane	A
Amyl Alcohol	T	Calcium Chloride	T	Diethyl Ether	X	Hydraulic Fluid	X
Amyl Chloride	X	Calcium Hydroxide	T	Diethylene Glycol		Hydrazine	X
Aniline	X	Calcium Hypochlorate	T	Diethyl Sebacate	X	Hydrobromic Acid	X
Animal Oil	T	Calcium Nitrate	T	Dimethylamine	X	Hydrochloric Acid	X
Antorox		Calcium Sulfate	A	Diethyl Ketone	X	Hydrochloric Acid	X
Antimony Chloride	A	Calcium Disulfide	X	Disodium Phosphate	T	Hydrocyanic Acid	T
Aqua Regia	X	Calcium Dioxide		DOP	B	Hydrofluoric Acid	X
ASTM Fuel A	A	Calcium Monoxide		Epichlorohydrine	C	Hydrofluoric Acid	X
ASTM Fuel B	A	Calcium Phosphate		Ethanol		Hydrofluosilic Acid	C
ASTM Fuel C	B	Carbon Tetrachloride	C	Ethyl Acetate	C	Hydrogen Chloride gas dry	
ASTM Oil #1	T	Carbonic Acid	T	Ethyl Alcohol	B	Hydrogen Cyanide	
ASTM Oil #2	A	Castor Oil	T	Ethyl Bromide	C	Hydrogen Gas	
ASTM Oil #3	T	Chlorine Gas	X	Ethyl Chloride	C	Hydrogen Peroxide	A
Asphalt	T	Chloroacetic Acid	X	Ethyl Sulphate		Hydrogen Peroxide	T



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Hydrogen Sulfide	T	Nickel Sulfate		Propyl Acetate		Tetrahydrofuran	X
Hydroquinone	B	Nitric Acid	X	Propylene Glycol		Tetra Phosphoric Acid	
Inks		Nitric Acid	X	Pyridine	X	Toluene	T
Iodine		Nitric Acid	X	Resorcinol		Toluene	T
Iso-Octane	A	Nitrobenzene	X	Salt Water	A	Toluene	C
Isopropyl Alcohol	A	N-Octane		Silicon Grease	T	TOTM	A
JP-4 Jet Fuel	A	N-Hexane		Silver Bromide/Cyanide		Transformer Oil	T
Jet A	T	Oleic Acid	T	Silver Nitrate	T	Trichloride-Ethane	
Jet B	T	Oleum	C	Skydrol Hydraulic Fluid	C	Triethanolamine	B
Kerosene	A	Olive Oil		Soap Solutions	A	Triethylene Glycol	
Ketones-aliphatic		Oxalic Acid	T	Sodium Acetate	A	Triethyl Phosphate	
Lactic Acid	X	Palmitic Acid	T	Sodium Bicarbonate	A	Triphenyl Phosphate	
Lanolin		Paraffin Wax		Sodium Bisulfate	T	Triphenyl Phosphite	
Latex		Pentane Sulfonic Acid		Sodium Borate	T	Tripropylene glycol	
Lead Acetate	T	Perchloroethylene	T	Sodium Bromide		Trisodium Phosphate	T
Lead Nitrate		Perchloroethylene	C	Sodium Carbonate	T	Tung Oil	T
Lead Sulfate		Petrol Euro 95		Sodium Chlorate	T	Turpentine	B
Lime (calcium oxide)		Phenol	C	Sodium Chloride	A	Urea	T
Linseed Oil	T	Phenol Formaldehyde	X	Sodium Dichromate	T	Urine	
LPG (propane)		Phosphoric Acid	C	Sodium Dichromate	T	Vaseline	
Lubricating Oils	T	Phosphoric Acid	X	Sodium Ferrocyanide	T	Vegetable Oil	A
Magnesium Carbonate	T	Phosphorous Yellow	X	Sodium Fluoride	T	Vinegar	
Magnesium Chloride	T	Phosphorous Pentoxide	X	Sodium Hydroxide	T	Water	A
Magnesium Hydroxide	T	Photographic Solutions	T	Sodium Hydroxide	A	Whiskey	
Magnesium Nitrate	T	Phthalate Plasticizer	C	Sodium Hypochlorite	T	White oil	
Magnesium Sulfate	T	Pickling Solutions	X	Sodium Nitrate	T	Wine	
Malic Acid	T	Potassium Bicarbonate	T	Sodium Phosphate		Wood Pulp	
MEK		Potassium Carbonate	T	Sodium Silicate		Xylene	T
Mercuric Chloride	T	Potassium Chloride		Sodium Sulfate	T	Xylene	T
Methanol		Potassium Chromate	T	Soybean Oil	A	Xylene	X
Methyl Alcohol		Potassium Cyanide	T	Stannous Chloride	X	Yeast	
Methyl Acetone		Potassium Dichromate	T	Starch		Zinc Carbonate	
Methyl Ethyl Keytone	C	Potassium Ferricyanide		Stearic Acid	A	Zinc Chloride	T
Milk (fresh)	A	Potassium Ferrocyanide		Styrene	X	Zinc Cyanide	
Milk and its byproducts		Potassium Hydroxide	T	Sugars		Zinc Nitrate	
Mineral Oil	T	Potassium Nitrate	T	Sulfuric Acid	X	Zinc Oxide	T
Mineral Spirits	T	Potassium Perchlorate	T	Sulfuric Acid	X	Zinc Stearate	
Monochloro Acetic Acid		Potassium Permanganate	T	Sulfuric Acid	X	Zinc Sulfate	
Naptha	X	Potassium Sulfate	A	Syrups			
Napthalene	X	Preacetine	B	Tall Oil			
Nickel Chloride		Propionic acid	C	Tannic Acid	X		
Nickel Nitrate		Propanol		Tartaric Acid	T		

The data shown are the result of laboratory tests and are intended only as a guide. No performance warranty is intended or implied. Tests have been performed according ISO 175: exposure during 28 days at a temperature of 23°C. Both mechanical properties as increase in weight are measured during exposure. Chemical resistance at other temperatures or with other chemicals can be tested on request.