

# ENVIRONMENTAL PRODUCT DECLARATION

## Elastoseal FRH / FRT

### The Company

SealEco  
P.O. Box 514  
SE-331 25 Värnamo

### Overview

The division develops manufactures and markets, rubber membranes and system solutions for waterproofing and is the market leader in Europe.

The most common applications are commercial roofing, water reservoirs, dam plants and waste tips. The organisation is certified in accordance with SS EN ISO 9001:2008.

### Environmental work

The work is carried out according to the environmental policy, which has been adopted by SealEco with an environmental management system in accordance with ISO 14001:2004.

The manufacturing organisation has a duty to report in accordance with the environmental protection act and is annually reported to the county administrative board in Jönköping.

### The product

#### Area of use

Watertight layer in reservoirs, irrigation channels, garden dams, waste disposal sites as well as roofs, terraces and beams, etc.

#### Description

Elastoseal FRH/FRT has a cross-linked polymer structure, which gives the product unique elasticity and unsurpassed ageing resistance, without problematic additives, in the most varying environmental and climatic conditions. Advanced polymer technology makes it possible to attain these qualities with thin membrane thicknesses.

Long life combined with low weight and volume per installed unit gives a product very economical in resources in its whole life cycle.

#### Included material

EPDM polymer	33%
Carbon black	17%
Mineral oils	5 %
Fillers	37%
Additives	
Vulcanising agent	1%
ZnO	2%

The product does not contain chemicals from the Limitation or Allergy list issued by the National Chemicals Inspectorate.

#### Manufacturing

Raw materials are mixed to a compound in the form of slabs. The material is heated and calendared into two separate layers which are laminated together. After cooling, the rubber sheeting and a textile interlining are rolled up on a steel drum.

The rubber is then cross-linked by vulcanising in autoclave.

Thereafter the intermaterial and rubber sheeting are rolled out and separated. The textile is reused; the rubber sheeting is inspected and packaged.

#### Waste disposal

Paper is gathered for recycling. Other waste, approx. 20 g/m<sup>2</sup>, goes to energy recovery and special landfill.

Environmentally dangerous waste approx. 0.7 g/m<sup>2</sup> goes to an authorised entrepreneur.

#### Discharge into water and ground

Nothing discharged into water and ground. Cold water is circulated in the system. Wastewater and storm water are connected to the sewer system of the municipality.

#### Discharge into the air

Vulcanisation fumes approx. 20 mg TVOC/m<sup>2</sup>.

#### Energy

Electricity consumption approx. 1.1 kWh/m<sup>2</sup>.

#### Distribution

Transport volume: approx. 400 m<sup>2</sup>/m<sup>3</sup> load volume.

**Production location:** Värnamo/Sweden.

**Method of transport:** Lorry, Train, Ship.

#### Forms of transport

From factory direct to customer as well as via retailers. The deliveries are adapted for best cost-efficiency/use of resources.

#### Packaging

The rubber sheeting is rolled up on a cardboard case and packed in polythene bag. The rolls are then placed on their sides with roll support on a European pool pallet.

#### *Packaging g/roll*

Cardboard case:	750 g
Polythene bag:	85 g
Total approx.	25 g per m <sup>2</sup> installed product.

The division is affiliated to REPA.

#### The building stage

Elastoseal FRH/FRT is applied to foundations of sand, geotextile, insulation or concrete. Splices are connected through hot bond vulcanized seam or with hot wedge, Thermobond. Loading pallets are part of the return system. Other packaging is pre-separated at source and recycled.

#### The usage stage

##### Use

No resources to maintain the watertight layer's function during use are required over and above the instructions and orders for the personnel treading upon the watertight layer. The rubber sheeting does not emit any measurable emissions.

##### Maintenance

The rubber sheeting does not require any maintenance apart from regular care. Any damage is repaired with the same product.

#### Life span

Rubber sheeting has been used in sealing systems since the end of the 40's, often in very extreme environments and climates. At plants still in use, there is rubber sheeting which, after 50 years, fulfils its original function.

#### Demolition

Supplies of rubber sheeting from building demolitions must always be agreed upon.

- The sheeting must be clean of pollutants, metal parts and other foreign objects.
- The sheeting must be divided into manageable sizes and rolled up or folded together on a pallet.

Delivered material must be specified in accordance with the following:

- Supplier.
- The name of the project, the quality stamp and year of manufacture of the rubber sheeting.
- Amount in kg or m<sup>2</sup> per package as well as the total amount.

#### Residual products

The rubber sheeting's good ageing resistance makes it possible to utilise products in a number of ways after requirements in question.

#### Reusing

The sheeting can be used and reused in other buildings.

#### Recycling

If the sheeting is not too dirty, it can be ground down to powder and used as a raw product for manufacture of new rubber sheeting or as additives in plaster to increase elasticity and impact-strength. In pyrolysis plants, gaseous fuel and carbon black are obtained from rubber.

#### Energy recovery

The rubber sheeting's heat value 43 MJ/m<sup>2</sup> and mm can be obtained by combustion in waste heating plants and cement kilns.

#### Waste products

Leaching and emissions do not occur.

#### Other information

This declaration gives information for a qualitative assessment of the effect on the environment. Our Quality & Environment Manager SealEco, phone +46 370 510 100, is at your service for further questions.



REPAREGISTRET AB

ISO 14001

BUREAU VERITAS  
Certification



Elastoseal FRH/FRT							
Qualitative record of the utilisation of resources and the effect on the environment							
Item	Part of life cycle	Type of energy	Raw materials		Emissions to		Effect on ground
			Renewable	Non-renewable	Water	Air	
<b>1</b>	<b>Resources</b>						
1.1	Raw materials/Extra materials	Electricity 0,25 kWh/m2		EPDM 33% Carb. black 17% Min.oil 5% Fillers 37	No	Dust	No
1.2	Additives < 5% of 1.1			Vulc. agent 1% ZnO 2%	No	Dust	No
1.3	Recycled material			Rubber powder	No	Dust	No
1.4	Parent state for raw materials/additional materials Sweden/EU/The rest of the world						
1.5	Production	Electricity 0,85 kWh/m2	Cotton textile	Polymer textile	No	TVOC 20mg/m2	Disposal waste < 20g/m2
<b>2.</b>	<b>Distribution of product</b>						
2.1	Place of production/Country, Värnamo/Sweden						
2.2	Method of transport, Lorry, Train, Ship	Oil, Diesel, Petrol, Electricity					
2.3	Distribution form	Oil, Diesel, Petrol, Electricity					
2.4	Packaging		Wood, paper	Polythene			
<b>3</b>	<b>The building stage</b>						
3.1	Building production	Electricity	No		No	TVOC	No
3.2	Building goods adaptation						No
<b>4</b>	<b>The usage stage</b>						
4.1	Use	Not applicable	No	No	No	No	
4.2	Maintenance		No	No	No	No	
4.3	Life span						
<b>5</b>	<b>Demolition</b>						
5.1	Disassembly						
<b>6</b>	<b>Residual products</b>						
6.1	Reusing						
6.2	Recycling						
6.3	Energy recovery					SO <sub>2</sub> , CO <sub>2</sub>	Ash
<b>7</b>	<b>Waste products</b>						
7.1	Landfill				No	No	No, no restrictions