

# PRODUCT DATA SHEET

## COLETANCHE ES 4 HFA

### DESCRIPTION

COLETANCHE ES 4 HFA is an SBS elastomeric modified bituminous geomembrane.

### USE

Extreme level of mechanical resistance, for use as environmental protection and droungworks waterproofing (aggressive materials, reinforced precautions), in particular :

- Railways, directly under ballast,
- Dams

The membrane has the same friction angle on both sides.

Product use must be validated by Axter.

### APPLICATION METHOD

By torch welding or other similar technique.

### STORAGE

Rolls must not be stored directly on the ground. Provide suitable supports (blocks, slides, wooden planks) with a minimum height of 35 cm to be placed under the ends of the mandrel.

### COMPOSITION

(indicative)

Reinforcement (g/m <sup>2</sup> ) :	Glass mat	50
Reinforcement (g/m <sup>2</sup> ) :	Non-woven geotextile	400
Binder (g/m <sup>2</sup> ) :	Elastomeric SBS	5400
Surface finish (g/m <sup>2</sup> ) :	Sand	250
Under surface finish (g/m <sup>2</sup> ) :	Peel-off silicone film	40

### CHARACTERISTICS

		STANDARD	UNITS	AVERAGE	Min
Dimensions	Length	-	m	55	54
	Width		m	5.10	5.01
Thickness (on finished product)		ASTM D 5199	mm	5.60	4.80
Surface mass		ASTM D 3776	kg/m <sup>2</sup>	6.40	5.90
Resistance to tearing	Longitudinal	ASTM D 4073	N	1225	919
	Cross direction			1025	769
Tensile properties : maximum tensile strength	Longitudinal	ASTM D 7275	kN/m	35	29.2
	Cross direction			30	23.2
Tensile properties : elongation	Longitudinal		%	50	35
	Cross direction			50	35
Static Puncture		ASTM D 4833	N	650	585
Flexibility at low temperature	Longitudinal	ASTM D 5147	°C	-20	-15
	Cross direction			-20	-15
Water permeability (liquid tightness)		ASTM E 96	m/s	6.10 <sup>-14</sup>	
Gas permeability (gas tightness)		ASTM D 1434-82	m <sup>3</sup> /m <sup>2</sup> /j/atm	< 3.10 <sup>-14</sup>	

NOTE: AXTER COLETANCHE INC. may modify the composition and/or utilisation of its products without prior notice. Consequently orders will be filled according to the latest specification.

