Summary Classification Report No. 23799D

PRODUCT

Force Line Warm Roof System

SPONSOR

Axter Limited

PRODUCT DETAILS

Force Line SBS / Force Line 4.0 / Force Line 4.5	**Force SA / Force Line 2VV / Force Line 3 VV underlayers**	**Hytherm ADH / Hytherm BF**	
Polymer modified (SBS) bitumen membrane with polyester reinforcement	A glass-fibre reinforced, elastomeric bitumen membrane	PIR board covered on top with coated glass tissue (Hytherm ADH) PIR board covered on top with bituminized glass fibre fleece (Hytherm BF)	Axter Bituminous Air & Vapour Control Barrier with reaction to fire classification E or better
3,5 mm – 4,1 mm	2,0 mm (Force SA) 2,0 mm (Force Line 2VV) 3,0 mm (Force Line 3VV)	50 mm – 600 mm	
4130 g/m² - 5080 g/m²	2390 g/m² (Force SA) 2650 g/m² (Force Line 2VV) 4200 g/m² (Force Line 3VV)	32 kg/m³ PIR density	
Torch-applied	Self-adhered (Force SA) Torch-applied (Force Line 2VV & 3VV)	PU adhered (see annex A)	

FIELD OF APPLICATION

- Range of pitches: ≤ 10°
- Range of substrates: Oriented Strand Board Type 3 (OSB3) (not FR Grade) (18 mm or more, 600 kg/m³)
- Full extended field of application: see annex A

CLASSIFICATION

Broof(T4)

STANDARDS

Test standard: CEN/TS 1187:2012 method 4
Classification standard: EN 13501-5:2016

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This summary classification report has been drafted according to EGOLF agreement EGA 039:2021 “Application note: clause 7.8 [7.8/1] – Types of reports”. It has not been drafted under the requirements of EN ISO/IEC 17025 accreditation and is not valid to officially classify a product. The full classification report No. **23799C** is available at **Axter Limited**.
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Annex A: extended field of application – part 1

- Range of layer a: The cap sheets: **Force Line SBS & Force Line 4.5,** tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Type of product / product compositi	Stabilised polyester reinforced elastomeric SBS modified bitumen membrane. The product was tested by an organic content of 56,7 weight % (Force Line SBS) or 64,6 % (Force Line 4.5). The result is applicable to any similar product with lower organic content.
Total thickness:	3,5 mm - 4,1 mm; including the 3,8 mm membrane (**Force Line 4.0)**
Total surface weight:	4130 g/m² - 5080 g/m²
Surfacing on upper side (facing):	Mineral chippings 1000 g/m²
Surfacing on lower side (backing):	Thermofusible film 10 g/m²
Reinforcement:	Polyester 100 g/m² - 180 g/m² (tested values) or lower
Joints	75 mm overlap
Fixing method (e.g. adhesive)	Torch-applied

- Range of layer b: The underlayer: Force SA or Force Line 2VV or Force Line 3VV, tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Force SA

Type of product / product composition:	Glass fibre reinforced, elastomeric bitumen membrane with a sand finishing on top The product was tested by an organic content of 67 weight %. The result is applicable to any similar product with lower organic content.
Total thickness:	2 mm
Total surface weight:	2390 g/m²
Surfacing on upper side (facing):	Sand - 100 g/m²
Surfacing on lower side (backing):	SBS bitumen factory pre-applied adhesive - 1110 g/m²
Factory pre-applied adhesive and / or additional adhesive layers	See line above
Reinforcement:	Glass fibre - 55 g/m² (tested value) or lower
Joints	75 mm overlap
Fixing method (e.g. adhesive)	Self-adherent

Force Line 2VV

Type of product / product composition:	Glass fibre reinforced, SBS modified bitumen membrane The product was tested by an organic content of 49 weight %. The result is applicable to any similar product with lower organic content.
Total thickness:	2 mm
Total surface weight:	2650 g/m²
Surfacing on upper side (facing):	Thermofusible film 10 g/m²
Surfacing on lower side (backing):	Thermofusible film 10 g/m²
Reinforcement:	Glass fibre - 55 g/m² (tested value) or lower
Joints	75 mm overlap
Fixing method (e.g. adhesive)	Torch-applied

Force Line 3VV

Type of product / product composition:	Glass fibre reinforced, SBS modified bitumen membrane with a sand finishing on top The product was tested by an organic content of 57 weight %. The result is applicable to any similar product with lower organic content.
Total thickness:	3 mm
Total surface weight:	4200 g/m²
Surfacing on upper side (facing):	Sand - 300 g/m²
Surfacing on lower side (backing):	Thermofusible film 10 g/m²
Reinforcement:	Glass fibre - 55 g/m² (tested value) or lower
Joints	75 mm overlap
Fixing method (e.g. adhesive)	Torch-applied

- Range of layer c: The primer (optional): Vernis SA, tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Type of product:	Cold bituminous adhering primer
Surface weight (dry):	81 - 162 g/m² (depending on porosity and type of layer below)

Annex A: extended field of application – part 2

- Range of layer d: The insulation: Hytherm ADH or Hytherm BF, tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Type of product / product composition:	PIR insulation foam covered on top with either a bituminized glass fibre fleece (Hytherm BF) or mineral coated glass fibre fleece (Hytherm ADH)
Thickness	Valid for a thicknesses range of 50 mm – 600 mm (*) 1 layer has a thickness between 50 mm & 120 mm
Density of the core:	32 kg/m³
Surfacing on upper side (facing):	Bituminized glass tissue - 425 g/m² ± 40 g/m² (Hytherm BF) Or Coated glass tissue – 310 g/m² ± 30 g/m² (Hytherm ADH)
Surfacing on lower side (backing):	Coated glass tissue - 310 g/m² ± 30 g/m²
Reaction to fire classification according to EN 13501-1	E or better (PIR with coated glass tissue facer only) F or better (PIR with bituminized glass fibre fleece on top)
Fixing method (e.g. adhesive)	Adhered using Hyrastik EVO (see layer e)

(*) Maximum thickness that the test equipment can handle

- Range of layer e: The adhesive: Hyrastik EVO, tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Type of product:	PU-adhesive
Surface weight (dry):	147 g/m²

- Range of layer f: The vapour control layer: Force Line 2VV, tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Type of product / Product composition:	The vapour control layer can be replaced with product of equal or better performance, if the vapour control layer has a defined reaction to fire class E.
Reaction to fire classification according to EN 13501-1	E or better.

- Range of layer g: The primer: Vernis Antac, tested and described in §1 of 23799C. In accordance with the EXAP-rules in annex D of CEN/TS 16459:2019, valid for:

Type of product:	Cold bituminous adhering primer
Surface weight (dry):	81 - 162 g/m² (depending on porosity and type of substrate below)

- Range of layer h: supporting deck:

Range of supporting deck:	Oriented strand board type 3 (OSB3) (Not FR grade) (18 mm or more ; 600 kg/m³)