

Notified Body No. 2812

Type-Examination (Module B) Certificate

ERO2812/MED0494TE

This is to certify that:

Element Materials Technology Rotterdam B.V. (ERO) did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU of 23rd July 2014, subject to any conditions in the schedule attached hereto.

Manufacturer

Name

AFS BORU SANAYI A.S

Address

İvedik Organize Sanayi Bölgesi, 1468. Cadde No:153, Ostim
06370, Ankara, Turkey

Authorised Representative

Name

Authorised Rep Compliance Ltd,

Address

71 Baggot Street Lower, Dublin, D02 P593, Republic of Ireland

Directive reference

Marine Equipment Directive (MED) 2014/90/EU of 23rd July
2014 and Regulation (EU) 2021/1158/EU of 22nd June 2021

Regulation Item

Item No. MED/3.18f, Combustible Ducts

Product Type

“SONOAFS-ALU.FB ECOSOFT MARINE”

Product description

Acoustically and thermally insulated flexible air duct, as per
detail in Attachment to this certificate

Specified Standard

SOLAS 74, Reg. II-2/3, II-2/5, II-2/9 and X/3, IMO Res
MSC.36(63)-(1994 HSC Code) 7, IMO Res MSC.97(73)-(2000
HSC Code) 7, IMO MSC/Circ.1120, IMO Res. MSC.307(88)-
(2010 FTP Code), as amended.

The attached schedule of approval forms part of this certificate.

This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with.



Pascal Coget
Certification Manager

Date of Issue: 2022-09-05

Expiry date: 2027-09-04

ERO project reference: ERO 034621 P1597

Notes:

- This equipment is covered by the scope of the “Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment” signed February 27th, 2004 and amended by Decision No.1/2008 dated February 18th, 2019 according to U.S Coast Guard approval category 164.112.
- A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F) as allowed by the MED.
- This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with, the notified body named on this certificate.
- During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards of the Commission Implementing Regulation may change, therefore the product conformity may need to be re-assessed by the Notified Body.

Appendix to Type-Examination Certificate

Schedule of Approval

The applicant declared that the following comprises an accurate description of the system type to which this certificate applies:

General description		Acoustically & thermally insulated aluminium flexible air duct	
Product reference of overall composite		SONOAFS-ALU.FB ECOSOFT MARINE	
Name of manufacturer of overall composite		AFS BORU SANAYI A.S.	
Thickness of overall composite		25 mm	
Weight per unit area of overall composite		629 g/m ²	
Product configuration		<ul style="list-style-type: none"> • Flexible air duct (test face) (micro-perforated ALUAFS.F MARINE) • Barrier • Insulation • Jacket 	
Micro Perforated flexible air duct	General description	Non-insulated aluminium flexible air duct	
	Product reference of overall composite	ALUAFS.F MARINE (micro-perforated)	
	Name of manufacturer of overall composite	AFS Boru Sanayi A.S.	
	Thickness of overall composite	74 micron	
	Weight per unit area of overall composite	153 g/m ²	
	Aluminium	Generic type	Aluminium foil
		Product reference	See Note 1
		Detailed description/composition details	Aluminium foil
		Name of manufacturer	See Note 1
		Thickness	16 micron
		Density	2.72 g/cm ³
		Colour reference	Aluminium
		Flame retardant details	See Note 2
	Adhesive	Generic type	See Note 3
		Product reference	See Note 1
		Name of manufacturer	See Note 1
		Colour reference	Transparent
		Application rate/thickness	See Note 1
		Application method	See Note 1
		Flame retardant details	See Note 2
Curing process		See Note 1	
Brief description of manufacturing process		See Note 1	

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Micro Perforated Flexible air duct (continued)	Poly	Generic type	Polyester film
		Product reference	See Note 1
		Detailed description/composition details	Polyester film
		Name of manufacturer	See Note 1
		Thickness	9 micron
		Weight per unit area	1.40 g/m ²
		Colour reference	Transparent
		Flame retardant details	See Note 2
	Adhesive	Generic type	See Note 3
		Product reference	See Note 1
		Name of manufacturer	See Note 1
		Colour reference	transparent
		Application rate/thickness	See Note 1
		Application method	See Note 1
		Flame retardant details	See Note 2
		Curing process	See Note 1
	Aluminium	Generic type	Aluminium foil
		Product reference	See Note 1
		Detailed description/composition details	Aluminium foil
		Name of manufacturer	See Note 1
		Thickness	16 micron
		Density	2.72 g/cm ³
		Colour reference	Aluminium
		Flame retardant details	See Note 2
	Adhesive	Generic type	See Note 3
		Product reference	See Note 1
		Name of manufacturer	See Note 1
		Colour reference	transparent
Application rate/thickness		See Note 1	
Application method		See Note 1	
Flame retardant details		See Note 2	
Curing process		See Note 1	
Aluminium	Generic type	Aluminium foil	
	Product reference	See Note 1	
	Detailed description/composition details	Aluminium foil	
	Name of manufacturer	See Note 1	
	Thickness	16 micron	
	Density	2.72 g/cm ³	
	Colour reference	Aluminium	
	Flame retardant details	See Note 2	
Barrier	Generic type	Compact polyethylene barrier	
	Product reference	See Note 2	
	Name of manufacturer	See Note 3	
	Thickness	0.012 mm	
	Density	0.933 kg/m ³	
	Colour reference	Transparent	
	Flame retardant details	See Note 4	

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Insulation	Generic type	Glass wool insulation	
	Product reference	See Note 2	
	Name of manufacturer	KNAUF INSULATION	
	Colour reference	Brown	
	Thickness	25 mm	
	Density	16 kg/m ³	
	Flame retardant details	See Note 4	
Jacket	Poly	Generic type	Polyester
		Product reference	See Note 1
		Name of manufacturer	See Note 1
		Thickness	12 micron
		Density	1.40 g/cm ³
		Colour reference	Transparent
		Flame retardant details	See Note 4
	Poly	Generic type	Polyester
		Product reference	See Note 1
		Name of manufacturer	See Note 1
		Thickness	12 micron
		Density	1.40 g/cm ³
		Colour reference	Transparent
		Flame retardant details	See Note 4
	Aluminium	Generic type	Aluminium foil
		Product reference	See Note 1
		Name of manufacturer	See Note 1
		Colour reference	Aluminium
		Thickness	9 micron
		Density / weight per unit area	2.72 g/cm ³
		Flame retardant details	See Note 4
Brief description of manufacturing process		See Note 1	

Note 1 - The sponsor was unwilling to provide this information.

Note 2 - The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product / component.

Note 3 - The sponsor of the test has provided this information but at the specific request of the sponsor, these details have been omitted from the report and are instead held on the confidential file relating to this investigation.

Note 4 - The sponsor was unable to provide this information.

Type Examination documentation

Test report No.	Date	Product reference	Test method
WF 369728	29th November 2016	SONOAFS-ALU.FB ECOSOFT MARINE	IMO Resolution MSC.307(88) (2010 FTP Code) : Annex 1 : Part 5
Smoke and Toxicity is satisfied by meeting the total heat release (Q_t) and peak heat release (Q_p) requirement as stated Paragraph 2.2 of Annex 2 to IMO Resolution MSC 307(88).		SONOAFS-ALU.FB ECOSOFT MARINE	IMO Resolution MSC.307(88) (2010 FTP Code) : Annex 1 : Part 2

Production Locations:

Place of production AFS BORU SANAYI A.S, Ivedik Organize Sanayi Bölgesi, 1468. Cadde No:153, Ostim 06370, Ankara, Turkey

Restrictions of use

None.

Marking

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of the Directive is fully complied with.