

Certificate No:

S-8511

File No:

430.10

Job Id:

262.1-010285-2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Safety Equipment

with type designation(s)

FRICTAPE Perimeter Safety Net

Issued to

FRICTAPE Net Oy
Vantaa, Finland

is found to comply with

Det Norske Veritas' Rules for Classification of Ships

Det Norske Veritas' Offshore Standard DNV-OS-E401, Helicopter Decks

CAP 437 Standards for Offshore Helicopter Landing Areas, Edition 7, Amendment 01/2013, February 2013

OGUK Helideck Perimeter Safety Nets - Issue 2 Joint Industry Guidance, March 2008

Application :

Helideck Perimeter Safety Net; To prevent personnel from falling off the deck.

This Certificate is valid until **2018-12-31**.

Issued at **Høvik** on **2014-12-18**

DNV GL local station: **Helsinki**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

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Martin Strande
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

FRICTAPE NET® - FRICTAPE Perimeter Safety Net; 2 layer woven light weight tape (Mk2) of:

Dimension: 30 mm x 3 mm (width x thickness)
Surface layer: Natural Class A jute
Inner layer: Polyester
Weight: 50 g / m (45 g/m for Mk1)
Jute weight per meter: 17 g / m
Tensile breaking strength: 16 kN (12.6 kN for Mk1)
Non – flammable.

85 mm x 85 mm knotted mesh attached securely to surrounding support structure by attachment tapes of same material as the netting.

The Type Approval also covers the FRICTAPE Perimeter Safety Net with ClipFrame attachment system.

Manufactured by

FRICTAPE NET OY, Juhanilantie 4, FIN-01740 Vantaa, Finland

Application/Limitation

1. The following are to be in compliance with the aviation and other responsible authorities, as applicable:
 - Size of the nets.
 - Use of the nets.
 - Physical properties of the nets.
2. This approval for the **Helideck Perimeter Safety Net** is based on the product description given above and is limited to the material and strength only.
3. Life time for the net: 9 years
or
when the drop energy absorption of a representative safety net panel has dropped below 2.3 kJ.
The rejection moment is predicted by testing of representatively exposed test pieces made of the actual netting material
or
when the min. safety factor is 4.
4. At least one test piece from each tape batch is to be subjected to physical tests in order to demonstrate the strength and other quality aspects of the product.
5. The **Helideck Perimeter Safety Net** is to be regularly examined visually for any damages that could reduce the design strength. Typical damages are such as cuts or tearing, burns, excessive local wear, corrosion due to chemicals. Damaged net shall not be used without satisfactory repairs. Repairs are to be approved by DNV GL.
6. Test pieces with markings are to be installed freely hanging, exposed to sunlight, preferably on the southern side of the rig.
7. One test piece should be removed once a year and be sent to laboratory or comparable facility for tensile break force testing or tensile energy testing.

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8 Both materials Mk1 and Mk2 passed the requirements of the Class b-2 according to the FAR / JAR Part 25.853.

Type Approval documentation

Report No.:

7013.1b	Main netting data, Summary Report	
7013.2	Outdoor exposure material test	
7013.3	Tensile break test, material Mk1	(by VTT)
7013.4	Tensile deformation energy measurements, Mk1/"1200mm"	(by VTT)
7013.5	Failsafe testing of one panel	
7013.6	Pullthrough testing at HSL, material Mk1	
7013.6c	Pullthrough testing of Perimeter Safety Net Panel according to OGUK "Helideck Perimeter Safety Nets – Issue 2 Joint Industry Guidance"	
7013.7	AFFF-foam exposure test, Frictape core material (by UiH, Lab. of Polymer Chemistry)	
7013.8	N.A.	
7013.9	Loading conditions, study of	
7013.10	Safety factor analysis, Mk1	
7013.11	The drawing of the test head for tensile break testing	
7013.12	Tensile break test, material Mk2	(by VTT)
7013.12c	Tensile break testing of material	
7013.13	Tensile deformation energy measurements, Mk2 "/1500mm"	(by VTT)
7013.14	Expected service life prediction, method 1	
7013.15	Expected service life prediction, method 2.	
7013.15	UKOOA Joint Industry Guidance, January 30, 2006	
VTT-S-4162-06	Determination of the fire safety of FRICTAPE SAFETY NET MATERIAL MK1 acc. to FAR/JAR Part 25.853 Horizontal flammability test	
VTT-S-4163-06	Determination of the fire safety of FRICTAPE SAFETY NET MATERIAL MK1 acc. to FAR/JAR Part 25.853 Horizontal flammability test.	

Manuals/Instructions:

Data Sheet, Frictape Perimeter Safety Net (Trade Name; FRICTAPE NET®)
Brochure Helideck Frictape Perimeter Safety Net,
Installation Manual Frictape Perimeter Safety Net,
Installation Manual Frictape Perimeter Safety Net with ClipFrame attachment system and
User Manual Frictape Perimeter Safety Net (Version 1.33)

Tests carried out

Please refer to **Type Approval documentation**.

Marking of product

For traceability to this type approval the **Frictape Perimeter Safety Net** is to be marked with:

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- *Manufacturer's name or trade mark*
- *Type designation*

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after two (2) years (Certificate Retention) and at renewal after four (4) years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE