



VYATSKY PLYWOOD MILL, LLC
Kommuny street
Kirov
610013
Russian Federation

To the attention of Mrs Marina Dubovaya

Ref : 21-0057

Saint-Rémy-les-Chevreuse, February 24th 2021

APPROVAL of PLYWOOD

Approval Report(s): MAT-RPT-002742 (rev.1)

Approval File: AF3502H09 (rev.2)

On the basis of the results of tests as compiled in the referenced Approval Report, it is confirmed that Plywood of thickness 6,5 mm complies with the technical requirements of specification M3502 (rev. A) and is approved by GTT for use in the construction of LG (Liquified Gas) cargo containment systems according to NO96 design(s).

This product, fabricated by Vyatsky Plywood Mill, LLC in its Vyatka Mill, using rolling method, is to be produced according to a dedicated quality control & production plan.

Assurance of the quality and conformity of the delivered product, is to be preserved by Vyatsky Plywood Mill, LLC in accordance with GTT's M 3000.

Any modification to the fabrication procedure or material characteristics shall be submitted to GTT for validation prior to acceptance. Complementary tests shall be requested before revalidation of the approval.

Remaud

Nathalie Remaud
Supplier Quality Manager



VYATSKY PLYWOOD MILL, LLC
Kommuny street
Kirov
610013
Russian Federation

To the attention of Mrs Marina Dubovaya

Ref : 18-0574

Saint-Rémy-les-Chevreuse, September 12th 2018

APPROVAL of PLYWOOD

Approval Report(s): GTT documents (all rev.1): MAT-RPT-002179, MAT-RPT-002180, MAT-RPT-002181, MAT-RPT-002182, MAT-RPT-002183, MAT-RPT-002184, MAT-RPT-002185 & MAT-RPT-002186.

Approval File: AF3502H09 (rev.1)

On the basis of the results of tests as compiled in the referenced Approval Report(s), it is confirmed that Plywood of thicknesses 9, 12, 15, 21, 24, 30 & 35 mm complies with the technical requirements of specification M3502 (rev. A) and is approved by GTT for use in the construction of LG (Liquified Gas) cargo containment systems according to NO96 design(s).

This product, fabricated by Vyatsky Plywood Mill, LLC in its Vyatka Mill, using rolling method, is to be produced according to a dedicated quality control & production plan.

Assurance of the quality and conformity of the delivered product, is to be preserved by Vyatsky Plywood Mill, LLC in accordance with GTT's M 3000.

Any modification to the fabrication procedure or material characteristics shall be submitted to GTT for validation prior to acceptance. Complementary tests shall be requested before revalidation of the approval.

Phillip Dempsey
Supplier Development & Qualification Manager

Certificate of General Approval for LNG Containment System Component

This certificate is issued to the company below to certify that the undernoted LNG system components has been examined for conformity with Lloyd's Register's "Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquefied Gases in Bulk", together with the relevant Gaz Transport & Technigaz (GTT) specifications and have been found to be acceptable.

Manufacturer	Vyatka Plywood Mill, Ltd
Address	Kommuny str., b. 1, Kirov, Kirov region, 610013, Russian Federation
Product Name	Birch Plywood for GTT NO96 M3502 thickness 6.5, 9, 12, 15, 21, 24, 27, 30 and 35mm
Product Type	Plywood
Approval Documentation	<ul style="list-style-type: none">• Plywood Test reports, dated 23/07/2018, 26/07/2018 and 20/07/2020• Plywood Boxes Test report, dated 30/07/2018• LR Attending Surveyor's Visit Report No. SPB 1711134, dated 07/12/2017
Reference Documentation	Plywood GTT's Specification No. M3502, Rev. A (January 2007)
Application	The products listed above may be used as indicated on approved drawings for vessels classed with Lloyd's Register in GTT NO96 membrane LNG containment system. If either the GTT reference documentation mentioned above is altered to a later version, or if the product listed above changes in design or composition, then this certificate becomes invalid.



Dariusz Boryszewski

Containment Systems Lead Specialist to
Lloyd's Register EMEA
A member of the Lloyd's Register group



Marine & Offshore

Certificate number: 54848/A0 BV

File number: ACM204/2366/001

Product code: 7401H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

VYATSKY PLYWOOD MILL

KIROV - RUSSIAN FEDERATION

for the type of product

THERMAL INSULATION MATERIALS AND COMPONENTS FOR LIQUEFIED GAS CONTAINMENT SYSTEMS

Birch plywoods, type "FSF" for NO96 LNG containment systems

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships - Part D, Chap 9, Sec. 4

IMO IGC Code

GAZTRANSPORT & TECHNIGAZ Specifications M3000 and M3502

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 21 May 2026

For Bureau Veritas Marine & Offshore,

At BV ST PETERSBURG, on 21 May 2021,

Valery AZOVTSSEV



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=7u5pidc9xz>

BV Mod. Ad.E 530 June 2017

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Birch plywoods, type "FSF"

Birch plywoods type A or type B used for the construction of insulating boxes and connecting elements of GazTransport & Technigaz NO96 membrane type LNG containment system.

Thickness (mm)	6.5	9	12	15	21	24	30	35
Number of plies	5	7	9	11	15	17	21	25

2. DOCUMENTS AND DRAWINGS:

2.1 - GazTransport & Technigaz Specifications:

- M3000 Rev.07: "Specification for GTT materials - Guidelines" dated 08/10/2018.
- M3502 Rev.A: "Plywood" dated January 2007.

2.2 - Approval File N° AF3502H09 Rev.02: "Plywood Segezha - Vyatka mill - M3502 RevA" dated 06/01/2021, from GTT.

2.3 - Quality manual "Production technology, control and acceptance procedure of plywood S-LNG NO96 in accordance with Specification GTT M 3502", N° P 2.3-001-2017 dated 2020.

3. TEST REPORTS:

GazTransport & Technigaz test reports:

- N° MAT-RPT-002742 Rev.01: "M3502 RevA - 6.5mm plywood - Segezha - Vyatka mill (11550)", dated 20/07/2020.
- N° MAT-RPT-002179 Rev.01: "M3502 RevA - Approval of 9mm plywood - Segezha Vyatka mill", dated 23/07/2018.
- N° MAT-RPT-002180 Rev.01: "M3502 RevA - Approval of 12mm plywood - Segezha Vyatka mill", dated 23/07/2018.
- N° MAT-RPT-002181 Rev.01: "M3502 RevA - Approval of 15mm plywood - Segezha Vyatka mill", dated 26/07/2018.
- N° MAT-RPT-002182 Rev.01: "M3502 RevA - Approval of 21mm plywood - Segezha Vyatka mill", dated 23/07/2018.
- N° MAT-RPT-002183 Rev.01: "M3502 RevA - Approval of 24mm plywood - Segezha Vyatka mill", dated 26/07/2018.
- N° MAT-RPT-002184 Rev.01: "M3502 RevA - Approval of 30mm plywood - Segezha Vyatka mill", dated 26/07/2018.
- N° MAT-RPT-002185 Rev.01: "M3502 RevA - Approval of 35mm plywood - Segezha Vyatka mill", dated 26/07/2018.
- N° MAT-RPT-002186 Rev.01: "M3502 RevA - Approval of plywood boxes - Segezha Vyatka mill", dated 30/07/2018.

4. APPLICATION / LIMITATION:

4.1 - Plywood boards are intended to be used as part of GazTransport & Technigaz NO96 membrane type LNG containment system.

4.2 - Minimum service temperature: -160°C.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The **Birch plywoods, type "FSF"** are to be supplied by **VYATSKY PLYWOOD MILL** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **VYATSKY PLYWOOD MILL** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - Production, testing and inspection to comply with GazTransport & Technigaz Approval File N° AF3502H09 Rev.02.

6. MARKING OF PRODUCT:

The product or packing is to be marked with manufacturer name, type and designation.

7. OTHERS:

7.1 - It is **VYATSKY PLYWOOD MILL**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Type Approval Certificate is based on the Approval Letters ref: 18-0574 dated 12/09/2018 and ref: 21-0057 dated 24/02/2021, from GazTransport & Technigaz.

*** END OF CERTIFICATE ***



Marine & Offshore

Certificate number: SMS.W.II./117823/A.0

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RECOGNITION FOR BV MODE II SCHEME

VYATSKY PLYWOOD MILL
KIROV - RUSSIAN FEDERATION

Summary of the range of the recognition which is detailed in the subsequent page(s):

Birch plywood FSF for NO96 LNG containment systems

This certificate is issued to attest that Bureau Veritas Marine & Offshore has performed, at the above company's request and in compliance with the requirements of NR320, a satisfactory assessment of the manufacturing facilities and associated quality procedures related to the range of the recognition.

This certificate will expire on: 22 Jul 2025

For BUREAU VERITAS,

At BV ST PETERSBURG, on 22 Jul 2021,

Valery AZOVTSEV



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfRecognition.jsp?id=5zavs8uh11>

BV Mod. Ad.E 697 June 2017

This certificate consists of 2 page(s)

THE SCHEDULE OF RECOGNITION

1. RANGE OF THE RECOGNITION

The products listed in the table below are not required to be certified individually or per batch by Bureau Veritas Marine & Offshore. Their compliance with the approved type is solely certified by the manufacturer using its own format of document and marking to allow traceability to the approved type (HBV products as defined in NR320).

App. number	Validity date	Item designation	Trade name
54848/A0 BV	21 May 2026	THERMAL INSULATION MATERIALS AND COMPONENTS FOR LIQUEFIED GAS CONTAINMENT SYSTEMS - 7401H	Birch plywoods, type "FSF" for NO96 LNG containment systems

2. LIMITATIONS

The certificates listed in the range of recognition are to be valid, as applicable.

Bureau Veritas Marine & Offshore is to be informed immediately of any modification to manufacturing facilities and associated quality procedures in order to agree on appropriate actions.

VYATSKY PLYWOOD MILL has to apply for the periodical audits as agreed with Bureau Veritas Marine & Offshore.

3. PERIMETER OF CERTIFICATION

Quality system of following site(s) has been assessed:

VYATSKY PLYWOOD MILL - KIROV - RUSSIAN FEDERATION

4. REMARKS

Nil.

*** END OF CERTIFICATE ***



中国船级社
CHINA CLASSIFICATION SOCIETY
工厂认可证书
CERTIFICATE OF WORKS APPROVAL

证书编号/Certificate No.
HB22PWA00007

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

LLC Vyatsky Plywood Mill

地址/Address

No.1, Kommuny Street, Kirov, 610013, Kirov Region, Russian Federation

产品名称/Product

非金属材料
Non-Metallic Material
货舱承木
Compressed wood for supporting tanks

认可标准/Approval Standard

- Gaztransport & Technigaz (GTT) specifications listed in remarks
- 中国船级社《钢质海船入级规范》（2022）及其变更通告 第1篇第3章
Chapter 3, Part One of China Classification Society Rules for Classification of Sea-Going Steel Ships 2022 and its Change Notices

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

证书有效期至/This Certificate is valid until 2026年03月30日/ Mar. 30,2026

发证机构 中国船级社深圳分社
Issued by CCS Shenzhen Branch

签发日期 2022年11月26日
Date Nov. 26,2022

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: W01.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P022-38323425

产品明细/Product Description**货舱承木/Compressed wood for supporting tanks (M0001)**

名称/Name	属性(值)/Value	单位/Unit
材料/Material	Birch Plywood for GTT N096 design Thickness 6.5, 9.0, 12.0, 15.0, 21.0, 24.0, 30.0, 35.0, boxes fabrication	mm

货舱承木/Compressed wood for supporting tanks (M0002)

名称/Name	属性(值)/Value	单位/Unit
材料/Material	Birch Plywood for GTT N096-L03 and N096-L03+ design Thickness 35, 37, 42	mm

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : HB22PWA00007

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : MAT-RPT-003106

试验报告日期/ Test Report Date : 2022-01-05

试验报告编号/ Test Report No. : MAT-RPT-003107

试验报告日期/ Test Report Date : 2022-01-05

试验报告编号/ Test Report No. : MAT-RPT-003108

试验报告日期/ Test Report Date : 2022-01-05

试验报告编号/ Test Report No. : MAT-RPT-002742

试验报告日期/ Test Report Date : 2020-07-20

试验报告编号/ Test Report No. : MAT-RPT-002179

试验报告日期/ Test Report Date : 2018-07-23

试验报告编号/ Test Report No. : MAT-RPT-002181

试验报告日期/ Test Report Date : 2018-07-26

试验报告编号/ Test Report No. : MAT-RPT-002182

试验报告日期/ Test Report Date : 2018-07-23

试验报告编号/ Test Report No. : MAT-RPT-002183

试验报告日期/ Test Report Date : 2018-07-26

试验报告编号/ Test Report No. : MAT-RPT-002186

试验报告日期/ Test Report Date : 2018-07-30

试验报告编号/ Test Report No. : MAT-RPT-002184

试验报告日期/ Test Report Date : 2018-07-26

试验报告编号/ Test Report No. : MAT-RPT-002180

试验报告日期/ Test Report Date : 2018-07-23

试验报告编号/ Test Report No. : MAT-RPT-002185

试验报告日期/ Test Report Date : 2018-07-26

认可后的产品检验方式/Method of Product Inspection after Approval

按规范只认可不进行产品检验的产品/The product approved only in term of the rules:

认可后的产品检验由制造厂按本社批准的产品检验计划进行检验, 经检验合格后由制造厂签发合格证明, 并连同该产品的本社认可证书复印件一并交付用户, 制造厂对产品符合公约、法规、本社规范和本社认可的标准规定负责。

认可后的产品检验方式/Method of Product Inspection after Approval

After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society. Upon satisfactory inspection, and the Quality Certificate issued by the Manufacturer should be provided to the purchaser together with the copy of the approval certificate issued by the Society. The manufacturer should take responsibility for the product being in compliance with the convention, statutory regulation, the Society rules and the standard accepted by the Society.

认可保持条件/Maintenance Requirements of Approval

1. 工厂认可后, 如果图纸、技术文件、工艺规程有较大改变, 应征得本社同意。若改变涉及或影响到产品的设计、主要制造材料、关键工艺或产品的特性、特征, 则与特性有关的图纸和技术文件应经过本社审批, 并在检验机构认为必要时, 经本社检验人员到厂进行检查和见证有关试验, 其结果应能证实仍符合认可条件。

After works approval, if there are any major changes to the drawings, technical documents, specifications, prior consent should be obtained from the survey office of the Society. If the changes involve or affect product design, major construction materials, key workmanship or product characteristics and properties, drawings and technical documents related to properties are to be examined and approved by the Society and, where deemed necessary by the survey office, the surveyor to the Society will go to the manufacturer to inspect or witness relevant tests and the results of the tests should be able to demonstrate compliance with the approval conditions

2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 工厂认可证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日, 检查工作应在定期审核日的前后三个月内进行。Those who have obtained the certificate of works approval shall receive periodical audit done by the Society on an annual basis. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 认可证书有效期内, 如果出现可能导致本社暂停或撤消认可的情况, 工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to suspend or withdraw the certificate, the manufacturer should take corrective actions in a prompt and effective manner.

备注/Remarks

1, The product is approved as insulation plywood, used in GTT N096, N096-L03 and N096-L03+ LNG containment system.

2, Refer to GTT specification M3502 Rev.A and M3513 Rev.1 for approval ratings.

3, GTT approval certificate No.18-0574, 21-0057, 22-0231 reviewed and accepted as part of approval documents.

4, The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

5. This Certificate is modified from and supersedes the previous Works Approval Certificate No. HB22PWA00001.

中国船级社汉堡分社
CCS Hamburg Branch