



U. S. Department of Homeland Security
United States Coast Guard
Certificate of Approval

Coast Guard Approval Number: 164.141/25/0

Expires: 03 March 2021

PLASTIC PIPING SYSTEMS

NOV Fiber Glass Systems
7A Tuas Ave. 3
Singapore 639407 SINGAPORE

BONDSTRAND Series 2000M-WD and 2000MNS-WD fiber reinforced pipe (FRP). Fire Endurance Standard: Level 3 (L3) and Level 3 Wet/Dry (L3 W/D).

BONDSTRAND Series 2000M-WD pipe nominal diameters 2" to 22" (Singapore), 2"-6" (Malaysia)
BONDSTRAND Series 2000MNS-WD pipe nominal diameters 2" to 6" (Singapore)

Have been tested and approved in accordance with IMO Resolution A.753(18) and Coast Guard PFM 1-98. Approved for use in locations and applications permitted in IMO Resolution A.753(18) and Coast Guard PFM 1-98, for meeting fire endurance Level 3 (L3) and Level 3 Wet/Dry (L3 W/D). Does not meet smoke, toxicity or flame spread requirements.

Identifying Data: SwRI Project No. 01.11745.01.001 dated November 2005 and 01.11745.01.004 dated January 2006.

Follow up services: SwRI.

Product must be installed & operated in accordance with manufacturer's guidelines. PSX-60 adhesive must be applied when assembling Quick-Lock joints. FRP flanged joints are accepted and shall be installed in accordance with manufacturer's installation procedures.

Max operating pressure: 15.5 bars.
Is not electrically conductive.

Valid only for pipe manufactured at:

NOV FGS Singapore (Pte) Ltd. - Singapore, 639407 : Nominal Diameters 2"-22"
NOV FGS Malaysia Sdn Bhd - 81400 Senai, Johor, Malaysia : Nominal Diameters 2"-6"

This certificate extends Approval Number 164.141/25/0 dated 3 March 2011; with changes to company name, adhesive, manufacturing locations and certificate wording.

*** End ***

THIS IS TO CERTIFY THAT the above named manufacturer has submitted to the undersigned satisfactory evidence that the item specified herein complies with the applicable laws and regulations as outlined on the reverse side of this Certificate, and approval is hereby given. This approval shall be in effect until the expiration date hereon unless sooner canceled or suspended by proper authority.

GIVEN UNDER MY HAND THIS 03rd DAY OF
MARCH 2016, AT WASHINGTON D.C.



B. A. BALDWIN
Chief, Lifesaving and Fire Safety Division
BY DIRECTION OF THE COMMANDANT

TERMS: The approval of the item described on the face of the Certificate has been based upon the submittal of satisfactory evidence that the item complies with the applicable provisions of the navigation and shipping laws and the applicable regulations in Title 33 and/or Title 46 of the Code of Federal Regulations. The approval is subject to any conditions noted on this Certificate and in the applicable laws and regulations governing the use of the item on vessels subject to Coast Guard inspection or on other vessels and boats.

Consideration will be given to an extension of this approval provided application is made 3 months prior to the expiration date of this Certificate.

The approval holder is responsible for making sure that the required inspections or tests of materials or devices covered by this approval are carried out during production as prescribed in the applicable regulations.

The approval of the item covered by this certificate is valid only so long as the item is manufactured in conformance with the details of the approved drawings, specifications, or other data referred to. No modification in the approved design, construction, or materials is to be adopted until the modification has been presented for consideration by the Commandant and confirmation received that the proposed alteration is acceptable.

NOTICE: Where a manufacturer of safety-at-sea equipment is offering for sale to the maritime industry, directly or indirectly, equipment represented to be approved, which fails to conform with either the design details or material specifications, or both, as approved by the Coast Guard, immediate action may be taken to invoke the various penalties and sanctions provided by law including prosecution under 46 U.S.C. 3318, which provides:

"A person that knowingly manufactures, sells, offers for sale, or possesses with intent to sell, any equipment subject to this part (*Part B. of Subtitle II of Title 46 U.S.C.*) and the equipment is so defective as to be insufficient to accomplish the purpose for which it is intended, shall be fined not more than \$10,000, imprisoned for not more than 5 years or both."