



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

Coast Guard Approval Number: 159.015/10225/1

Expires: 29 September 2028

**SEWAGE POLLUTION PREVENTION EQUIPMENT
CERTIFICATION OF COMPLIANCE WITH 33 CFR 159 - Type II MSD**

SHS TECH, LLC
POB 53241
Lafayette LA 70505-3241

Models: I-40, I-70, I-140, I-250, I-500, I-750, I-1000, I-1500, I-2000, I-2500, and I-3000

Capacities: 160 GPD (605 LPD), 200 GPD (757 LPD), 300 GPD (1,135 LPD), 400 GPD (1,514 LPD), 500 GPD (1,892 LPD), 750 GPD (2,839 LPD), 1,000 GPD (3,785 LPD), 1,500 GPD (5,678 LPD), 2,000 GPD (7,570 LPD), 2,500 GPD (9,463 LPD), 3,000 GPD (11,356 LPD)

The models listed above have a designed hydraulic loading of 0.61, 0.76, 1.14, 1.51, 1.89, 2.84, 3.79, 5.68, 7.57, 9.46, 11.36 m³/day and an organic loading of 0.45, 1.09, 1.63, 2.09, 2.72, 3.27, 4.08, 5.26, 6.62, 8.16, 10.43 kg/day Biochemical Oxygen Demand (BOD), respectively. The design shown on drawings SHST-0004, Rev. A dated July 2017 and SHST-0005 Rev. A dated July 2017, and SHST 11 dated October 22, 2023, have been examined and satisfactorily tested in accordance with IMO resolution MEPC.227(64) to meet the operational requirements referred to in regulation 9 of Annex IV of the International Convention for the Prevention of Pollution from Ships (MARPOL). The tests on the equipment were carried out ashore at TEi-Testing Services, LLC on November 6, 2017, and July 24, 2023.

The equipment tested produced an effluent which did not exceed the geometric mean of 100 thermotolerant coliforms per 100 mL, Total Suspended Solids of 35 Qi/Qe mg/L, a geometric mean of BOD₅ demand without nitrification of no more than 25 Qi/Qe mg/l, a geometric mean of chemical oxygen demand of no more than 125 Qi/Qe mg/l, and a pH between 6 and 8.5. These devices were not tested for nitrogen and phosphorus removal and do not meet section 4.2 of MEPC.227(64), applicable to passenger vessels operating in MARPOL Annex IV special areas.

This equipment may not be installed in hazardous locations on U.S. flag vessels. The Administration is satisfied that the sewage treatment plant can operate at angles of inclination of 22.5 degrees in any plane from the normal operating position. This equipment complies with the requirements of 33 CFR 159.97 and may be installed aboard inspected vessels. The units shall be labeled in accordance with 33 CFR 159.16. Details of tests and results obtained are shown on the Appendix to this Certificate. A copy of this certificate should be carried on board any ship equipped with the above described sewage treatment plant.

This certificate supersedes Approval number 159.015/10225/0 dated April 24, 2023; update includes revised drawings and a new test date.

*** 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 29th DAY OF
SEPTEMBER 2023, AT WASHINGTON D.C.



R. E. THOMAS
Acting Chief, Engineering 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."