



DEPARTMENT OF THE NAVY

DIRECTOR, SAFETY AND SURVIVABILITY
WASHINGTON NAVY YARD
720 KENNON STREET SE RM 110
WASHINGTON DC 20374-5028

September 15, 2003

Subject: Testing TEMP-COAT Ceramic Liquid Insulation
As an Acoustic material.

In July '03 TEMP-COAT Latex ceramic barrier insulation was submitted for testing at Riverbank Acoustical Laboratories to determine acoustic capability and quality. Based on prior testing by Boeing this product was applied and tested in space # 03-92-2-L of a 12 Pack sleeping quarters aboard the USS Roosevelt in July of 2000. The test results showed promise as an acoustic coating. The product benefits include thermal conductivity, condensation control and control of corrosion under insulation. This combination of attributes coupled with acoustic qualities would offer the Navy a unique opportunity to achieve a number of goals utilizing one coating. The multiple attributes of the product are not surprising as many insulations serve dual purposes such as fiberglass.

Riverbank Acoustical Laboratories is a highly regarded test facility by the acoustic community. The purpose of the tests was to formally verify the results of the findings in the USS Roosevelt practical application and testing. TEMP-COAT underwent two procedures during the testing in an effort to confirm the product benefits. The tests were performed on an 8 ft. by 8 ft. specimen of TEMP-COAT at a thickness of 40 mils or 40/1000 of an inch in thickness. The first test series was for transmission loss. This is the amount of noise that is blocked from going through a wall (or bulkhead) and the test conducted was ASTM E90-02. The second test was the absorption coefficient which determines how much sound is absorbed as it bounces around the inside of a room. The ASTM Standard is C423-02. To the observer a hard room is very echo-like. A room which has been treated with absorptive materials does not have that echo-like sound. In summary, transmission loss materials keep noise from getting into a space, absorptive materials control noise once it is in the space.

Completion of the tests showed that TEMP-COAT works as a lightweight acoustic treatment. TEMP-COAT generally added to the sound transmission loss of the bulkhead. It has a sound transmission class rating of 31. In the sound absorption test, it has a Sound Absorption Average of 0.06 with peak values of 0.24 at 3.15 kHz. These numbers offer a lightweight acoustic solution in spaces that need acoustic treatment. TEMP-COAT, as an insulation, carries a NAVSEA Anti-Condensation coating approval and as such can easily be used in tandem with other insulations to improve both the insulation and acoustic value of a space. On the USS Roosevelt, TEMP-COAT performed extremely well in reducing the noise level from electrical conduit and water piping in the overhead of the 12 Pack. TEMP-COAT is also approved as an insulation and as an Anti-Condensation coating for the Coast Guard.

This data on TEMP-COAT has been forwarded to a database for ship design purposes.

Department of Safety and Survivability

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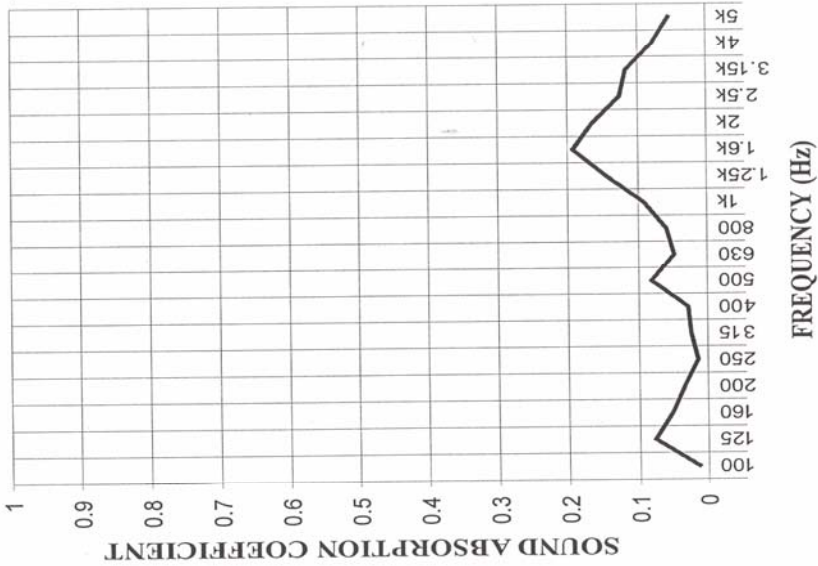
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TEST REPORT

SOUND ABSORPTION REPORT
RAL - A03-111

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SAA = 0.08
NRC = 0.10

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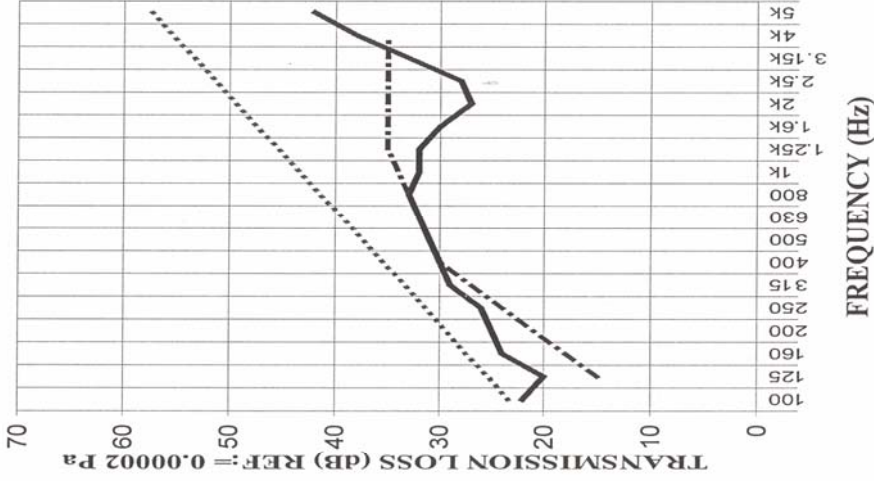
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TEST REPORT

SOUND TRANSMISSION REPORT
RAL - TL03-200

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STC = 31

TRANSMISSION LOSS

SOUND TRANSMISSION LOSS CONTOUR

MASS LAW

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