Warnock Hersey

Test Report

ITS Intertek Testing Services

ITS Intertek Testing Services
ETL SEMKO

Full Scale Fire Endurance Test: Two non-Loadbearing, VAP Walls

Client
Sonic Barrier Sound Products Ltd.
7973 Progress Way
Delta, BC V4G 1A3
Canada

Reported by
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Test Number: WHI-495-1659 and WHI-495-1660
Test Date: February 19 and 20, 2002
Issue Date: February 25, 2002

Testing supervised by:

Paul M. Dugan
Project Engineer

Report reviewed by:

Howard W. Stacy
General Manager

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INTRODUCTION

Intertek Testing Services (ITS) Antioch, California Division conducted a one-hour fire test for a Class A bulkhead for the client, Sonic Barrier Sound. The test was conducted in accordance with the *Recommendation on Fire Resistance Tests for A, B and F Class Divisions, Resolution A.754 (18), IMO FTP Code 1998.*

The walls were received on February 11, 2002 in satisfactory condition.

TEST MATERIALS

WHI-495-1659: Aluminum bulkhead wall (95" wide x 97-1/2" high)

WHI-495-1660: Corrugated Steel bulkhead wall (95-1/4" wide x 97-3/8" high)

Masonry Blocks: 8" x 8" x 16" and 8" x 8" x 8" CMU's

Mortar: Sand and cement mortar

TEST ASSEMBLY CONSTRUCTION

The bulkhead wall was anchored into the 12' wide test frame. A masonry block wall was built around the bulkhead using cement blocks and mortar. The wall was allowed to cure. Ten thermocouples were placed on the unexposed face as required by the testing standard.

FIRE ENDURANCE TEST

Data acquisition began after burner ignition and positioning of test assembly. To maintain the time-temperature curve specified in *FTP Code 1998* temperatures within the furnace were monitored with nine thermocouples and controlled by adjusting fuel flow to the burners.

Conditions of the exposed and unexposed faces of the test assembly were periodically observed and recorded (see Appendix B). Unexposed surface temperatures of the wall were recorded with ten thermocouples (see Appendix A). Photographs of the test assembly before and after the fire endurance test are included in Appendix A.

Three pressure taps (located on the vertical centerline of the furnace six inches from the test assembly at the base, midheight and top elevations) measured the furnace pressure in inches of water column. The pressure was controlled by adjusting of dampers in the furnace exhaust stacks.

The table of test results and the graph of the furnace curve are included in Appendix C.

CONCLUSION

The aluminum bulkhead described in this report complied with *FTP Code 1998* for an A-30 one-hour fire-rated bulkhead assembly. The corrugated steel bulkhead described in this report complied with *FTP Code 1998* for an A-0 one-hour fire-rated bulkhead assembly.

The average and maximum temperature rises on the unexposed surface of the aluminum bulkhead at 30 minutes were 69°F (thermocouples 1-10) and 80°F (thermocouple 7), respectively. The average and maximum temperature rises allowed by the standard are 250°F and 325°F, respectively.

APPENDIX A: FIGURES AND PHOTOGRAPHS

Figure 1 – Aluminum Bulkhead

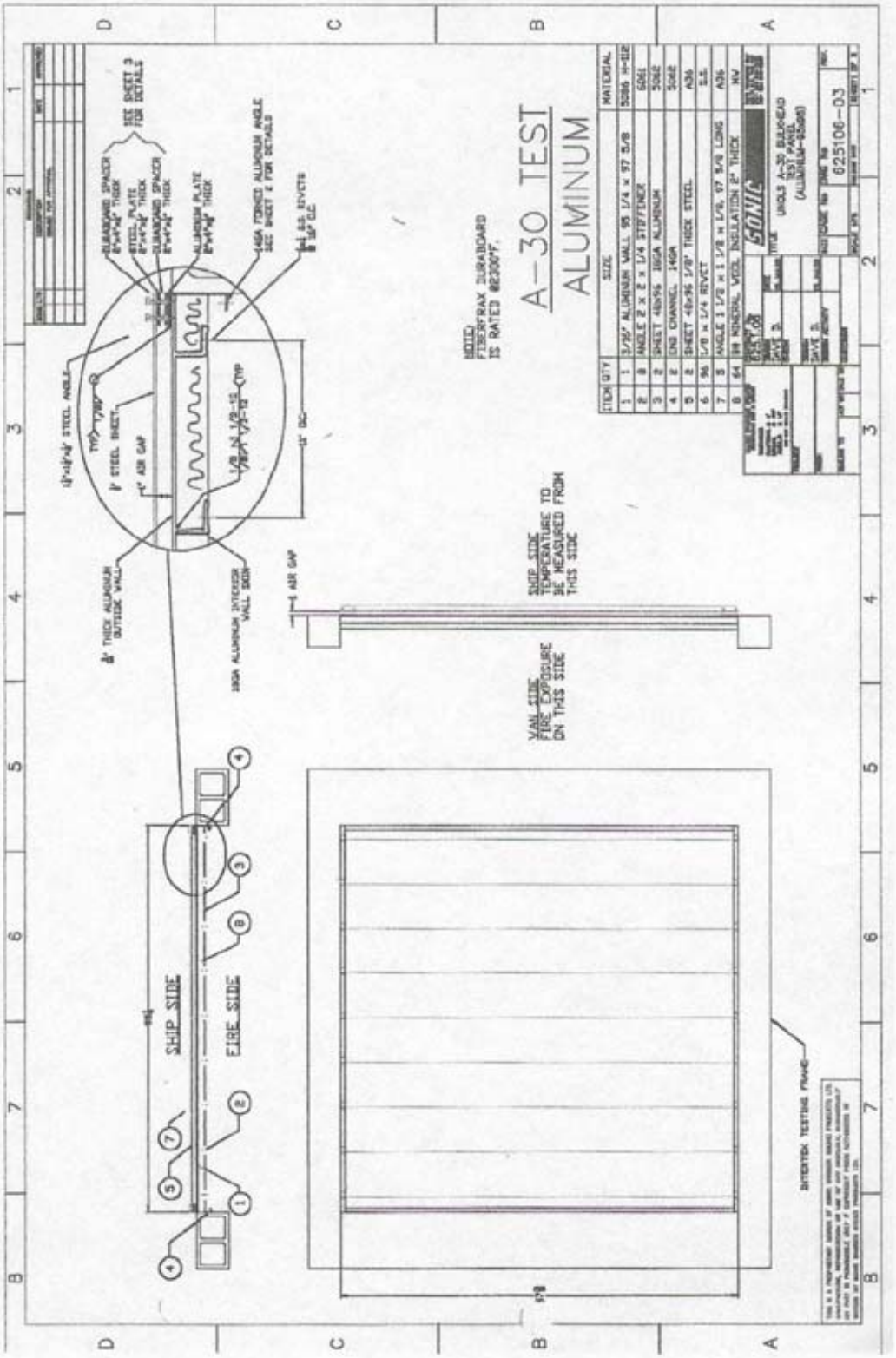
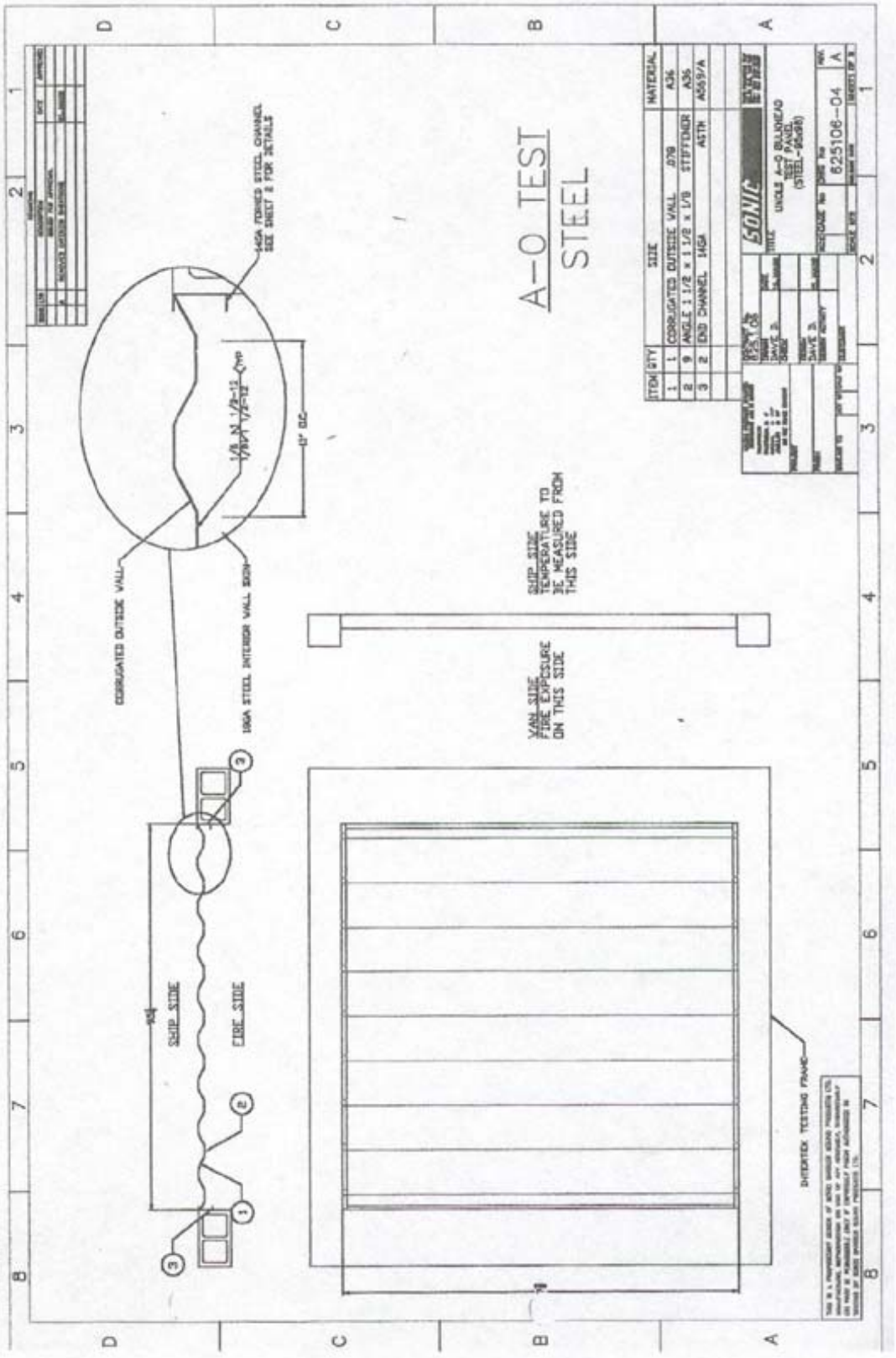


Figure 2 – Corrugated Steel Bulkhead



Test WHI-495-1659: Before Fire Endurance Test