



TEST REPORT

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Report Number: 321-20195

Project No.: 34722

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Client: MIFAB Incorporated
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Contact: Michael Whiteside

Source of Samples: The samples were shipped to IAPMO R&T Lab from MIFAB Incorporated and received in good condition on August 28, 2020.

Date of Testing: September 23, 2020 through September 24, 2020

Sample Description: Shielded Transition Couplings; models:

- MI-QHUB-150 (1-1/2")*
- MI-QHUB-2 (2")
- MI-QHUB-3 (3")
- MI-QHUB-4 (4")
- MI-QHUB-5 (5")
- MI-QHUB-6 (6")
- MI-QHUB-8 (8")*

“*” = tested samples.

Scope of Testing: The purpose of the testing is to determine if the samples tested of the Shielded Transition Coupling meet the requirements of ASTM C1460-2017, entitled, “Standard Specification for Shielded Transition Couplings for Use with Dissimilar DWV Pipe and Fittings Above Ground”.

Conclusion: the tested samples of the Shielded Transition Couplings, model noted above, from MIFAB Incorporated, COMPLY with all applicable requirements of ASTM C1460-2017.

Tested by,

Reviewed by,

Lawrence S. Owens, Test Technician

Sean Vuu, P.E., Manager, Specialty Projects

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Primary Standard: ASTM C1460-17, Sections tested / evaluated:

4. Materials and Manufacture
5. Elastomeric Gasket Requirements
6. Clamp Assembly Requirements
7. Coupling Requirements and Test Methods
8. Marking and Identification

Test Results: all tests and evaluations were conducted per the written procedures in the specified standard.

ASTM C1460-17:

4. Materials and Manufacture – COMPLIED (same as File 5226)
- 4.1 Physical properties of gaskets are in accordance with Table 1 of Specification C564, using the durometer hardness column as specified by the manufacturer.
- 4.2 All steel parts are made from 300 series stainless steel and shall conform to the requirements of Specification A493, see results below.

Findings:

Component	Material Type	Status
Screw	SS-304	PASS
Band	SS-304	PASS
Upper Housing	SS-304	PASS
Lower Housing	SS-304	PASS

5. Elastomeric Gasket Requirements – COMPLIED (same as File 5226)

The elastomeric gasket consists of one piece in accordance with the physical requirement of 4.1. The elastomeric gasket has an inside center stop-ring spaced equal distance from the ends to serve as a stop between the pipe/fitting ends that does not create an enlargement chamber or recess with ledge, shoulder, or reduction of pipe area or offer an obstruction to flow. A gasket without an inside center stop is permitted where telescoping of the piping is necessary. The elastomeric gasket is free of defects that affect the use and performance.

6. Clamp Assembly Requirements – COMPLIED
- 6.1 Clamp assemblies were tested to withstand no less than 125 % of the manufacturer-stated installation torque of 60 lb/in. minimum of applied torque over a steel mandrel sized within the range of the clamp without visible signs of failure.
- 6.2 COMPLIED. Clamp assembly screws or bolts do not have screwdriver slots.
7. Coupling Requirements and Test Methods
- 7.1 Assemble each coupling in accordance with the manufacturer's instructions between two sections of randomly selected pipes not to exceed 20 ft in length, manufactured to appropriate standards for the type of pipe the couplings are expected to join, and conduct the following tests:

7.1.1 Deflection Test – COMPLIED

The coupling was set up per Figure 1 of the standard. A hydrostatic pressure was applied to 4.3 psi. One pipe was rigidly supported and while under pressure, the opposite end was raised to 1/2” per linear foot of the pipe (5 ft). The pressure was maintained for 5 minutes.

Finding: the couplings tested showed no leakage during the test.

7.1.2 Shear Test – COMPLIED

The coupling was set up per Figure 2 of the standard. The sample was subjected to 50 lbs/in of 1-1/2” and 8” nominal ID (75 lbs and 400 lbs) load with the system pressured to 4.3 psi and maintained for 15 minutes.

Findings: the samples tested did not show any leakage during the test. The maximum displacement of the samples tested was less than 3/8 (0.375 in.) inch. The displacement measurement results are recorded below.

Size (in)	Observed Displacement (in)	Status
1-1/2	0.056	PASS
8	0.045	PASS

7.2 Unrestrained Hydrostatic Joint Test – COMPLIED

The coupling was set up as per Figure 3 and a hydrostatic pressure applied in increments of 1 psi at 30 second intervals until the required target pressure of 20 psi (1-1/2”) and 10 psi (8”) was reached and maintained for a period 5 minutes and axial movement recorded.

Findings: the sample showed no signs of leakage during the test. The maximum movement was less than 0.150”, the actual observed displacement of the samples testes is recorded below.

Size (in)	Pressure applied (psi)	Axial Joint Displacement (in)	Status
1-1/2	20	0.012	PASS
8	10	0.049	PASS

8 Marking and Identification

- 8.1 COMPLIED - Each gasket is permanently marked with the manufacturer’s name “MIFAB”, country of origin “THAILAND”, the pipe sizes for which it is designed, sizes 1-1/2” & 8” and Specification C564, the Class “CI to PVC”.
- 8.2 COMPLIED - Each clamp assembly is permanently marked with the manufacturer’s name “MIBFAB”, country or origin “THAILAND”, the pipe sizes for which it is designed, sizes 1-1/2” & 8”, “ASTM C-1460” and “CI to PVC”. The markings are visible after installation.

