TangiTek CleanSignal™ Gaskets Shielding Effectiveness Testing

Introduction

This document presents independent, third-party laboratory test results of **TangiTek CleanSignal™ gasket** materials.

The purpose of these tests was to determine the shielding effectiveness of various **CleanSignal™** gasket materials. The shielding effectiveness testing was performed in the 30MHz to 18GHz frequency range.

This document includes the following:

- Brief description of the test, as per the test report
- **CleanSignal™** Gasket Specifications
- Force/Displacement/Resistance test results for the TangiTek **CleanSignal™** gaskets
- Shielding effectiveness test results

Test Setup

Based on the test report, radiated shielding effectiveness testing was performed in accordance to IEEE-299 (modified) at the independent, third-party's shielding effectiveness test laboratory.

The report states:

"The test configuration consists of a 24" X 24" brass common aperture between two separate galvanized steel shielded enclosures. The width of the brass surface is 1". The common aperture is fitted with a 26" X 26" X .5" big aluminum plate which has a 10" opening in its center, we use four 12" Aluminum rails to have the test samples mounted on its boundary, the test sample is 10" X 10".

Testing was performed over the frequency range of 30MHz to 18 GHz. Bi-conical antennas were used for testing from 30MHz to 200MHz, double ridge waveguide antennas were used for testing from 200MHz to 18 GHz. The antennas were located on each side of the test fixture, the distance from the antennas to the sample is 750mm (for 30MHz to 200MHz), 600mm (for 200MHz to 1GHz test), and 700mm (for 1GHz to 18GHz test). Each antenna was in an individually shielded enclosure. Mode stirring was employed in the transmitting room to homogenize the electro-magnetic wave. Reference readings were taken through the test fixture aperture. The test sample was installed in the test fixture. Readings were taken in the same frequency range as for the reference readings. The difference in the signal amplitude through the open aperture compared to the amplitude of the signal through the test sample is the shielding effectiveness (attenuation) of the test sample."

A conceptual sketch of the test setup based on the original report is shown in Figure 1 below.

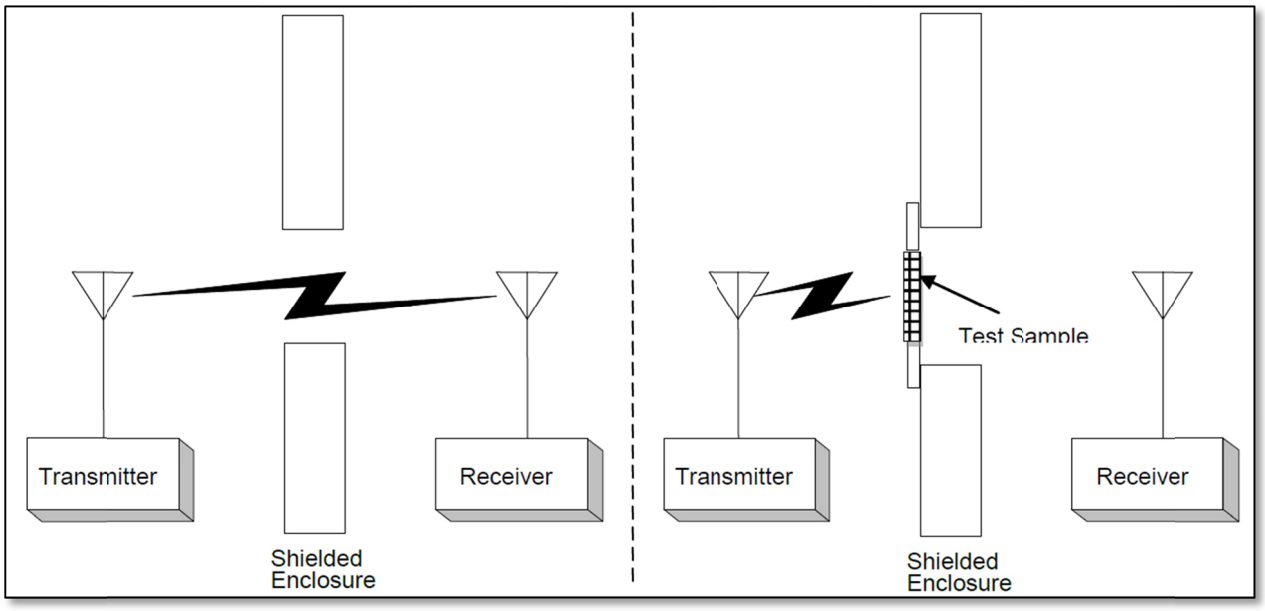

Figure 1 Conceptual Sketch of the test setup and configuration, as per the third-party test report

CleanSignal™ Gasket Specifications

The table below enumerates the three types of **CleanSignal™** gaskets submitted for testing:

Table 1. CleanSignal™ Gasket Shielding Effectiveness Testing – Sample Description				
Sample #	**Sample Dimensions (submitted for testing)**	**Thickness (uncompressed/compressed @ 4 psi)**	**Weight (grams)**	**Thermal Stability (°C)**
MM 0001	12” x 18”	0.054”/ 0.046”	115	Up to 120
ML 0002	12”x 18”	0.065”/ 0.060”	110	Up to 120
LL 0002	12”x 18”	0.076”/ 0.072”	100	Up to 120

Compression Testing

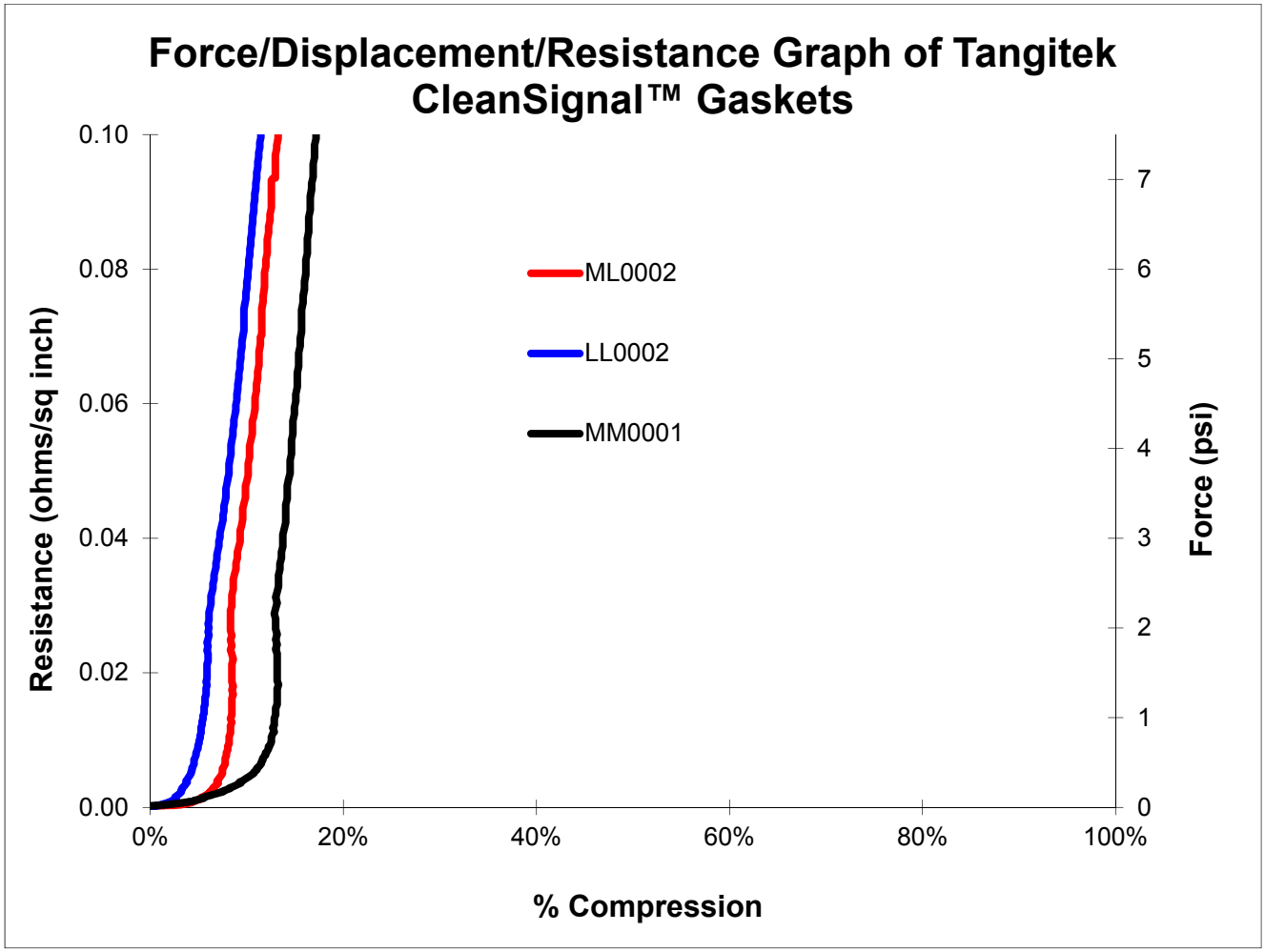

Figure 2 Compression Tests of Tangitek CleanSignal™ Gaskets

Shielding Effectiveness Results

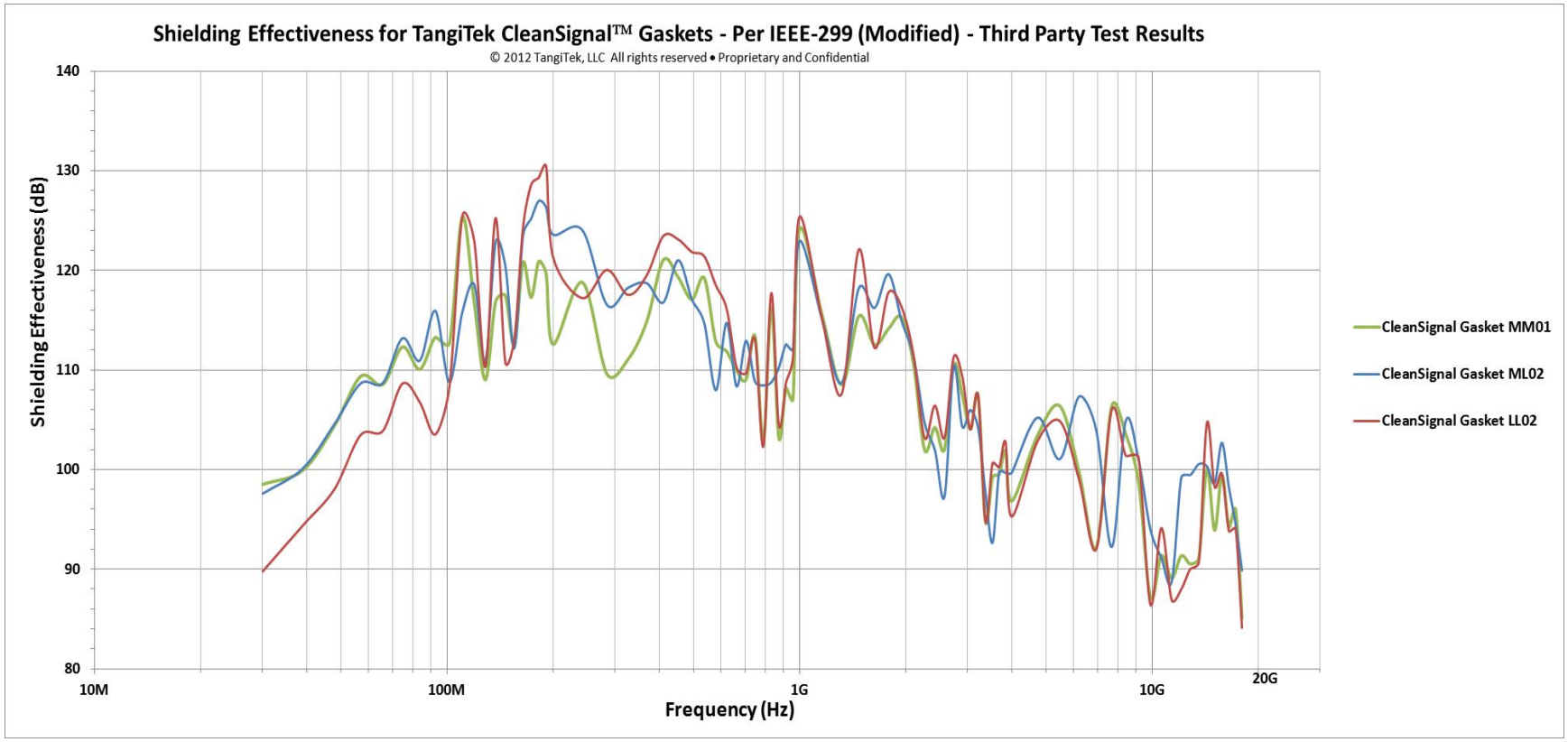

Figure 3 TangiTek CleanSignal™ Gasket - Shielding Effectiveness

Contact

TangiTek, LLC

1033 SW Yamhill St.
Ste. 301
Portland OR – 97205. USA
Ph: 503-222-1022
E-mail: info@tangitek.com
http://www.tangitek.com