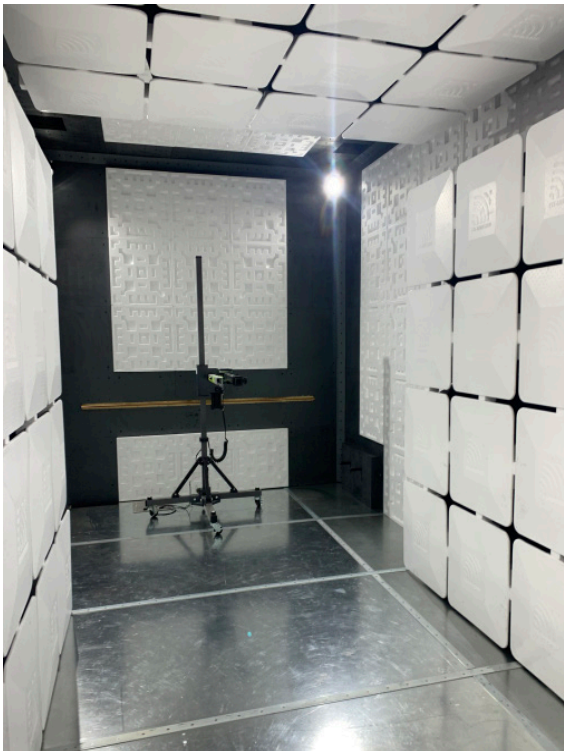
CASE STUDY E3 COMPLIANCE – GRAND RAPIDS, MICHIGAN



ETS-Lindgren installed a cutting-edge SpaceSaver™ 26H EMC Chamber, representing a remarkable RF shielded semi-anechoic chamber technology achievement. This versatile chamber offers a comprehensive solution for a wide range of testing requirements, particularly pre-compliant emission testing. Its compact design, tailored to the specific needs identified by E3 Compliance, provides an exceptional anechoic test environment capable of supporting testing to 7 GHz, with extended testing to 40 GHz available upon request.

The SpaceSaver™ 26H chamber boasts an impressive performance that surpasses the stringent standards typically associated with pre-compliant radiated emissions testing, design, and debugging applications. This achievement is made possible through the incorporation of ETS-Lindgren's finest materials, including advanced anechoic absorbers, and state-of-the-art positioners such as the highly acclaimed EMCenter™ Modular RF Platform, equipped with a 7-slot configuration.

The chamber design has undergone rigorous testing procedures to ensure superior performance and reliability, including shield verification and meticulous anechoic testing.These measures validate the chamber's exceptional shielding properties and ensure its ability to provide an accurate and controlled testing environment.

This successful installation of the SpaceSaver™ 26H EMC Chamber by ETS-Lindgren stands as a testament to our commitment to delivering cutting-edge solutions that push the boundaries of technological innovation. It showcases ETS-Lindgren's expertise in RF shielded chamber design and underscores our dedication to meeting the demanding requirements of our clients.

RF Shielding Overview

- Modular RF shielded enclosure with nominal inside shield dimensions of 7.45 m L x 3 m W x 3 m H (24 ft L x 10 ft W x 10 ft H)
- Overall chamber dimensions 7.7 m x 3.2 m x 3.4 m (25 ft L x 10 ft W x 11 ft H)

RF Shielded Door

- Manual 1.1 m W x 2 m H (3.9 ft W x 6.8 ft H) RF shielded single-leaf door w/ limit switch
- Includes a two-piece aluminum custom door ramp with a 317 kg (700 lb) weight capacity

Anechoic Absorbers and Treatments

ETS-Lindgren installed DuraSorb™ absorber, providing a smooth transition from free space impedance to the lossy ferrite tile base. As a result of its optimized design, high performance is guaranteed, both at lower frequency bands and frequencies above 1 GHz.

- Reflectivity is better than 17 dB from 60 MHz to 3 GHz, and better than 20 dB at above 4 GHz.
- At frequencies above 8 GHz, the reflectivity exceeds 35 dB. Absorber power handling is 106 W per m^2 (0.068 W per in^2) - 200 V/m
- Model DSH-400H, partial (16 pcs) coverage with 400 mm (1.3 ft) DuraSorb™ polystyrene absorber and whitecaps
  Note: Non-critical areas are covered with polystyrene absorber
- Model FT-1500, full coverage with ferrite panels
- Model DSH-600, full coverage with 600 mm (1.9 ft) DuraSorb™ Hybrid Absorber and whitecaps

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Floors

- Raised 6.5 in (16.5 cm) ground plane with three (3) 30 cm x 30 cm (12 in x 12 in) access hatches
- Dielectric floor underlay with vapor barrier

  Note: Height measured above the ground plane raised floor

Positioning

- Medium duty turntable – 1.5 m (4 ft 11 in) diameter with a 1,000 kg (2,205 lb) weight capacity

Antenna

Users can be confident of accurate measurement results when using the 7-TR/POL Tripod, which is constructed of non-metallic, non-reflective materials that will not distort measure data. The 7-TR/POL Tripod provides increased stability for physically large, ultra-broadband antennas, such as ETS-Lindgren BiConiLog™

- Nominal Height: 218 cm (86 in)
- Nominal Load Capacity: 13.5 kg (29.76 lb)
- Maximum Height: 218 cm (86 in)

Shielding Performance

– Magnetic Field: 20 dB at 1 kHz / 56 dB at 10 kHz / 100 dB at 1 MHz

– Electrical Field: 100 dB from 1 kHz to 30 MHz

– Plane Wave: 100 dB from 30 MHz to 1 GHz

– Microwave: 100 dB from 30 MHz to 1 GHz

About ETS-Lindgren

ETS-Lindgren is an international manufacturer of components and systems that measure, shield, and control electromagnetic and acoustic energy. The company's products are used for electromagnetic compatibility (EMC), microwave and wireless testing, electromagnetic field (EMF) measurement, radio frequency (RF) personal safety monitoring, magnetic resonance imaging (MRI), and control of acoustic environments.

Headquartered in Cedar Park, Texas, ETS-Lindgren has manufacturing facilities in North America, Europe, and Asia. Additional information about ETS-Lindgren is available at www.ets-lindgren. com. Additional information about ETS-Lindgren's parent company ESCO and its subsidiaries is available at www.escotechnologies.com.

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