



**LABORATORY REPORT
ON
AIRBORNE SOUND TRANSMISSION-LOSS MEASUREMENTS
OF
THE SAC 11 C29 DOOR SET
FOR
SUPA RICH CO., LTD.
THAILAND.**

7. Measurement Procedures:

Before the transmission-loss measurement, the microphone calibration was done and the background noise was measured. Then, the pink noise was sent to the loudspeaker unit, which placed in the source room. There are two microphones used in this measurement. One was installed in the source room to record the incident sound pressure level on the specimen before transmit through the material. Another microphone was placed in the receiving room to measure the transmitted sound pressure level and the reverberation time of the receiving room.

All spectra were recorded and by cause 7.3.1 of the ASTM E 90-02 the transmission loss (TL) values were calculated at each frequency in the 1/3-octave band. The center frequencies in this measurement are at 125Hz, 160Hz, 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz and 4kHz respectively.

Finally, the single value rating, Sound Transmission Class (STC) according to ASTM E 413 was calculated from the sound transmission loss.

8. Result:

The airborne sound transmission-loss (TL) of the test sample for each individual 1/3 octave band center frequency and the STC rating number of the test wall were tabulated in **Table 1**. The graphical representation of the values in the table 1 was shown in **figure 1**.

However, these TL-values and the STC rating in this measurement are valid only in this test condition. Thus, the internal structure of the wall, the installation and the size of the specimen can give the influences to the transmission-loss measurements.

9. This report is issued under the following conditions:

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Table 1. The airborne sound transmission-loss (TL) for each individual 1/3 octave band center frequency and STC rating of the *SAC 11 C29* test sample.

Test panel: *SAC 11 C29* door set.

Client: SUPA RICH Co., Ltd.

Test sample size: 2282mm. x 2400mm. x 45mm.

Date of test: 23 November 2021.

Temperature: 27°C

Relative humidity: 60%

Frequency (Hz)	TL (dB)
125	26
160	32
200	31
250	36
315	37
400	35
500	35
630	35
800	33
1000	30
1250	27
1600	25
2000	27
2500	27
3150	30
4000	35

STC	29
Maximum Deficiency	8 dB
Sum of Deficiency	31 dB



Figure 1. The airborne sound transmission-loss (TL) and the STC rating of the test sample.

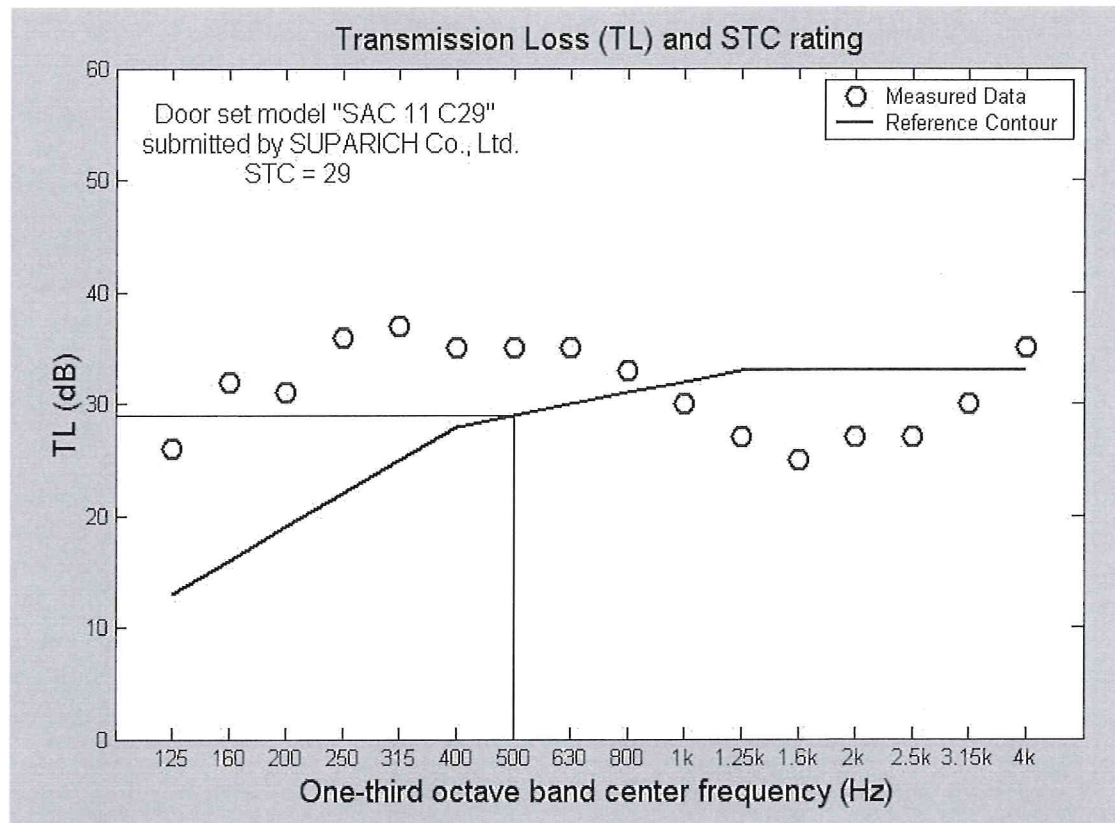


Figure 2. Specification of the test sample.

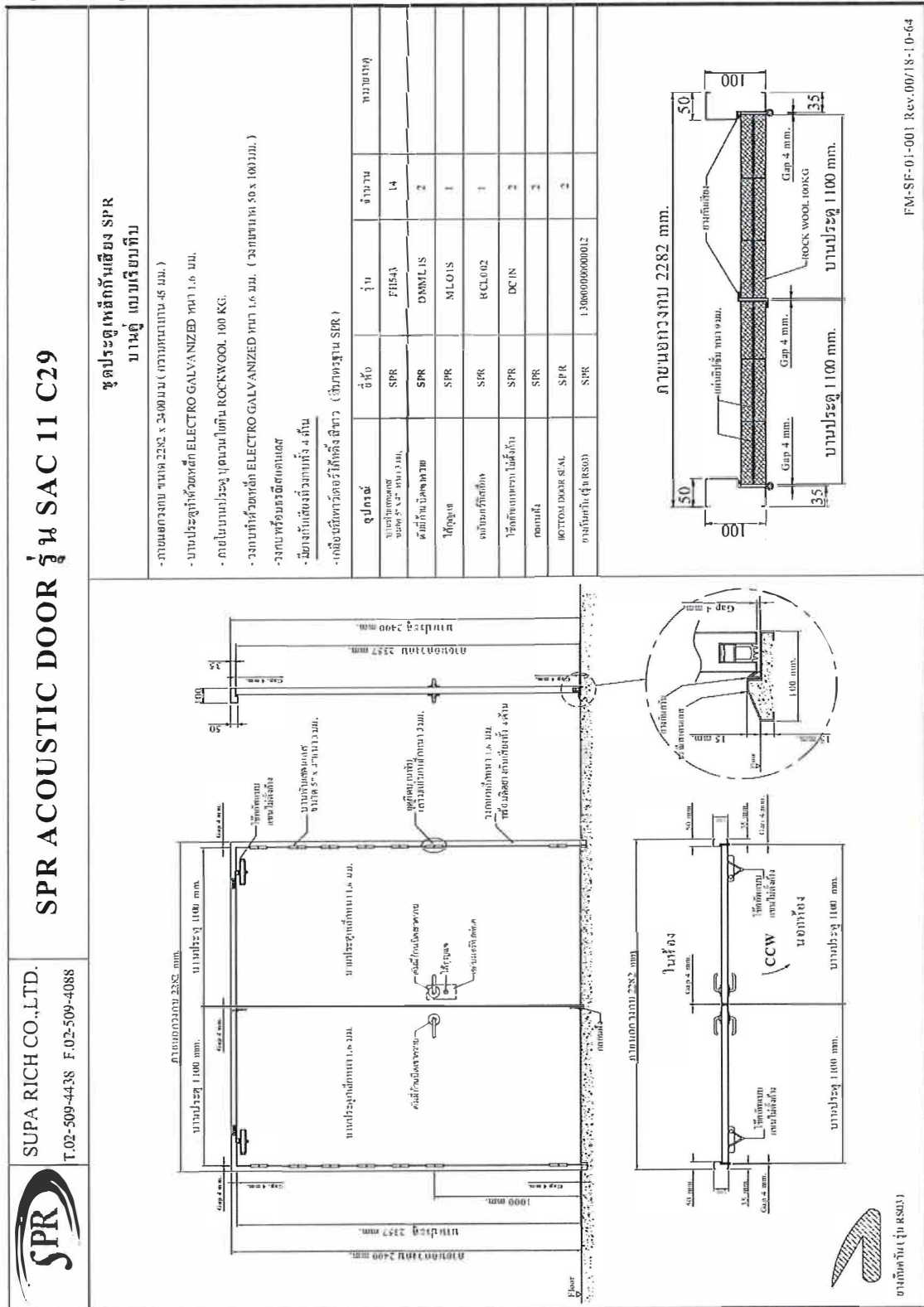


Figure 3. Schematic drawing of the measurement set-up in a double-reverberation chamber.

