OPTIX ACOUSTIC SHEET SOUND TRANSMISSION

PLAZCRYL ACOUSTIC sheet offers sound loss characteristics that are equal to or better than those of glass.

Since PLAZCRYL sheet is also more resistant to breakage, it can be used as a transparent sound barrier to reduce noise levels and increase safety at the same time.

Tables 1, 2, and 3 show noise reduction values and STC ratings for PLAZCRYL sheet and other construction materials.

TABLE 1 - Noise reduction-dB(A) vs. sheet thickness (mm)

Properties	Method	Units	10mm	12mm *	15mm *	20mm *
Low frequencies predominant (100 – 400 Hz)	15	20	23	25	27	30
Flat frequency spectrum (400 – 2000 Hz)	25	27	27	28	34	35
High frequencies predominant (2000 – 5000Hz)	28	30	32	34	36	37

- Estimated from measurements of thicker sheets.

* Compliance for Road traffic noise reducing devices EN 14388

STC Rating

STC stands for Sound Transmission Class. Basically, STC ratings are an established way to average how much sound is stopped by something. STC ratings are used for windows, doors, walls and most building materials. For windows, STC ratings range from 18 to 38.

STC ratings are the ONLY way to accurately compare various noise reduction products. An STC rating is an instrument measurement of how much noise is stopped.

The STC ratings allow accurate 'apple to apple' comparisons. The STC rating is the average amount of noise stopped at 18 different frequencies, measured in decibels. STC ratings are a logarithmic scale similar to the earthquake Richter Scale, which means each number is significantly higher than the one before.

TABLE 2 - Noise Ratings of PLAZCRYL® Sheet

Material Thickness	STC
PLAZCRYL sheet 6 mm	24
PLAZCRYL sheet 10 mm	25
PLAZCRYL sheet 12 mm	26
PLAZCRYL sheet 15 mm	29
PLAZCRYL sheet 20 mm	30
PLAZCRYL sheet 6 mm air space 3mm	38

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TABLE 3 - Comparison of Noise Reduction Characteristics of PLAZCRYL® Sheet With Other Materials

Material Thickness	Approximate dB(A) noise reduction*
PLAZCRYL sheet 3 mm *	25
25 PLAZCRYL sheet 6 mm *	29
29 PLAZCRYL sheet 10 mm *	30
30 PLAZCRYL sheet 12 mm *	32
32 PLAZCRYL sheet 15mm	33
33 PLAZCRYL sheet 20mm	34
Glass 3 mm	25
Glass 6 mm	27
Plywood 25 mm	26
Steel 3 mm	37
Sheet lead 1.6 mm	38
Wood stud partition	38

Noise reduction obtained in enclosures depends on the completeness of the enclosure, tightness of joints, etc. The above as dB(A) noise reductions were obtained in a completely enclosed, tightly joined structure. These conditions are seldom achieved in the real world; however, even under more realistic conditions, the use of PLAZCRYL sheet barriers can reduce noise levels enough to protect against heavy damage. The main purpose of this table is to indicate the relative noise reduction capabilities of commonly used materials in terms of dB(A).

* Estimated from measurements of thicker sheets.

PLASKOLITE

400 Nationwide Blvd, Suite 400
Columbus, OH 43215
800.848.9124 • Fax: 877.538.0754
plaskolite@plaskolite.com
www.plaskolite.com