

# Acrylic Noise Barrier Panels

ROAD TRAFFIC BARRIERS / US & EUROPEAN SPECIFICATION

Specify the assembled barrier and its supports, not a panel sound-insulation number alone. Separate laboratory transmission, field insertion loss and structural resistance.

## 01 Specify the destination-market route

| Market / purpose       | Standard reference                        | How to apply it                                                                                                                                                  |
|------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| United States          | Project DOT specification + FHWA guidance | Use frequency-band transmission data where required. ASTM E90 / E413 STC is a building-partition rating; STC alone is unsuitable for traffic-noise assessment.   |
| European projects      | EN 1793-2:2025 / EN 1793-6:2025           | Select diffuse-field or direct-field airborne sound-insulation testing for the intended application. Do not treat the two methods as interchangeable.            |
| European system review | EN 1794-1:2024 / EN 1794-2:2024; EN 14388 | Mechanical/stability and safety/environmental assessment, alongside the specified product framework. Agree the contract edition and applicable assessment route. |

## 02 Product and performance parameters

| Parameter               | Unit / status         | Technical requirement                                                                                              |
|-------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| RP-NS-GS-CC range       | 15 / 20 / 25 mm       | Website-listed thread-embedded options; quotation must confirm grade, thickness tolerance and system availability. |
| Acoustic performance    | Frequency data; dB    | No tested RP transmission / insertion-loss value established in this publication.                                  |
| Wind / span / retention | kPa; mm; test result  | Approve complete support system, load cases, allowable deflection and post-impact retention.                       |
| Optical performance     | % at stated thickness | Do not carry a thin clear-sheet transmission value over to every thick, tinted or patterned panel.                 |

Evidence status: no product-specific third-party reports were supplied. Referenced standards are procurement / test routes, not a declaration that RP products are tested, listed, CE marked or certified. Numeric limits must be agreed for the identified product and application.

# Property and test method matrix

## 03 Record values with their test conditions

For each row, the approved schedule must state the measured value, required limit, unit, standard edition and report ID. US and ISO / EN routes below address related properties; they are not presented as equivalent tests.

| Property                     | Unit                    | US / ISO / EN reference                            | Required test record / acceptance basis                                                                                                        |
|------------------------------|-------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Optical transmission / haze  | % / %                   | ASTM D1003; alternatively ISO 13468-1 / ISO 14782  | State thickness, colour, surface, test procedure and instrument. Methods are not automatic equivalents.                                        |
| Tensile / flexural behaviour | MPa; GPa; %             | ASTM D638 / D790; alternatively ISO 527 / ISO 178  | Report strength, modulus and elongation with specimen, orientation, speed and conditioning. Short-term values are not allowable design stress. |
| Airborne sound insulation    | Frequency bands; dB     | EN 1793-2 OR EN 1793-6; US project test route      | Identify method, sample, frame, joints and seals. Set minimum performance from the acoustic design.                                            |
| Installed noise benefit      | Insertion loss, dB      | FHWA measurement guidance / specified field method | Document source, receiver, meteorology and before/after conditions. No percentage-reduction guarantee from STC.                                |
| Mechanical resistance        | kPa; deflection mm      | EN 1794-1 or specified US DOT procedure            | Agree span, load cases, supports and residual deformation; no generic panel-only safe span.                                                    |
| Retention / road safety      | Test outcome / category | EN 1794-2 or specified authority procedure         | Confirm complete tested fragment-retention system. No blanket safety-net exemption or bird-safety certification.                               |

Measured value is not the same as a catalogue typical value, guaranteed minimum or structural design allowable. Match the report to the grade, thickness, colour, coating, batch and fabrication route. Where no report is available, the result remains unverified.

## Inspection schedule to agree before production

Identify sampling frequency, test specimens, numeric limits, drawing tolerances, inspection conditions and handling of nonconforming results. Use a qualified laboratory whose scope covers the selected method. Record buyer approval before release.

# Design review and delivery acceptance

## 04 Engineering and release requirements

01 The acoustic designer defines barrier height, length, placement and required frequency-dependent insulation. Assess gaps, joints and reflections in the project model.

02 The structural designer defines wind, vehicle-induced and other applicable actions, support spacing, thermal movement and allowable deformation.

03 For elevated sections, require documented post-breakage retention for the assembled system. Agree bird-visibility pattern and authority criteria separately.

04 Before supply, approve the panel schedule, mounting drawings, declared results and inspection plan. Require any fire, weathering or environmental evidence specified by the purchaser.

Acceptance record: identify the tested panel + frame + seals; enter the applicable acoustic result, design wind action, support span and retention result. These fields cannot be replaced by a generic "EN compliant" statement.

## 05 Source register and edition control

Public publisher / authority scope information checked 18 Oct 2026. These notes do not reproduce the standards or replace licensed full texts. Agree contract editions, amendments, required classifications and local authority acceptance before testing or purchase.

BSI - EN 1793-2:2025, diffuse-field insulation

BSI - EN 1793-6:2025, direct-field insulation

EN 1794-1:2024 - BSI / ANSI catalogue preview

BSI - EN 1794-2:2024

ASTM E413 - scope and traffic-noise limitation

FHWA - Noise Measurement Handbook

RP product / application range (catalogue information)

Technical enquiries: [oversales@rpplexiglass.com](mailto:oversales@rpplexiglass.com) | +86 132 2992 0731

Send drawings and the required market standard