



*The First Low Cost Thermoformed QRD® Diffusor
From The Acoustical Industry's Leading Innovator*

Since its introduction in 1984, the number theoretic QRD® 734 Diffusor has proven to be a versatile general purpose diffusor. The uniform scattering, wide bandwidth, and broad selection of finishes make the QRD® a logical choice for almost any speech, critical listening, or performance facility. The Formedffusor™ brings this proven technology to a wider audience because of its low price, ease of installation, Class A fire rating, light weight, impact resistance, and color and texture options.

Problem and Solution

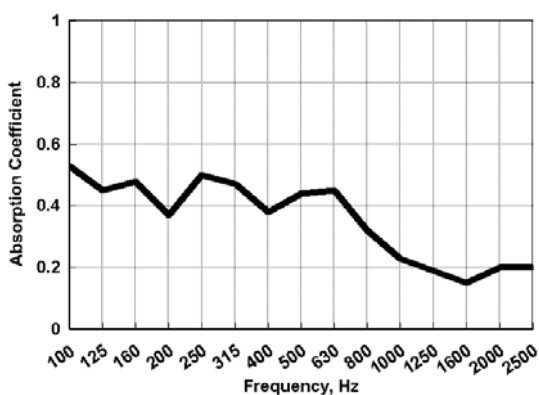
Problem

Wooden QRD® diffusers may be too heavy for some ceiling applications or too expensive for large scale coverage. There is a need for a lightweight, Class A, cost effective, molded plastic QRD®.

Solution

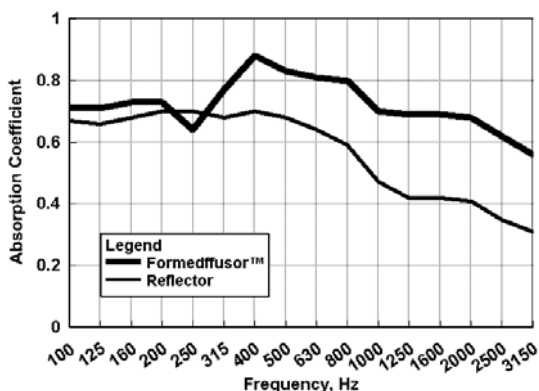
To address this problem, RPG® developed a lightweight, thermoformed panel made of Class A Kydex®. The diffuser has graceful curved inner and outer radii for an attractive appearance. Kydex® is stiff and impact resistant, allowing the Formedffusor™ to be used in almost any wall or ceiling application.

Performance Specifications



Absorption

The Formedffusor™ is designed to offer wide angle, broad bandwidth sound diffusion as well as useful low frequency absorption. These features control excessive boominess and balance the room's reverberation response. The Formedffusor™ can be used to offset the usually predominate high frequency absorption of people, drapery, rugs, and porous materials.



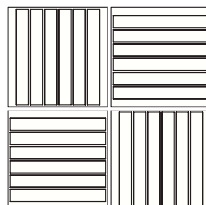
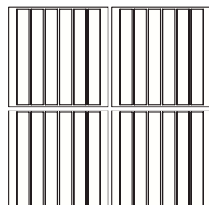
Diffusion

The Formedffusor™ is based on the QRD® reflection phase grating introduced by RPG® in 1983. It offers broad bandwidth wide angle diffusion. The graph illustrates the average diffusion coefficient (1 is ideal) for all angles of incidence. Compared to a flat reflecting panel, the QRD® maintains uniform diffusivity as a function of frequency above the diffraction limit.

Installation

The Formedffusor™ can be wall mounted using custom millwork or suspended in a T-bar grid. Panels can be aligned to form a one dimensional diffusor array or staggered 90° for a two dimensional diffusor array.

1D Array



2D Array

FEATURES

- QRD® number theory sound diffusion
- Lightweight thermoformed fabrication
- Low frequency diaphragmatic absorption
- Custom colors
- Can be oriented to provide one or two dimensional diffusion in the far field
- Panels nest into one another

BENEFITS

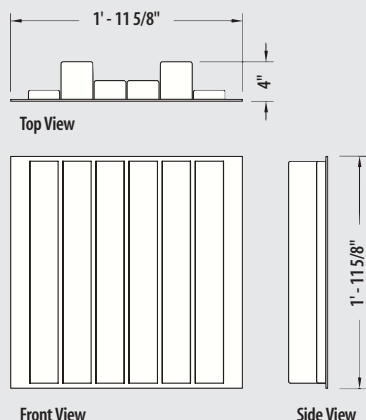
- Low frequency absorption can be used to control boominess in small rooms, while also providing uniform sound diffusion
- Thermoformed panels are designed to nest for lower shipping costs
- Diffusers can be aligned linearly for diffusion in the direction perpendicular to the wall direction or rotated 90° forming an alternating pattern to provide omnidirectional scattering
- 2' x 2' size offers more flexibility and higher diffusion performance than larger periodic 4' x 4' formats with a smaller repeat unit
- The Formedffusor's light weight makes handling and installation simple

APPLICATIONS

Music education facilities, Recording studios, Broadcast studios, Rehearsal rooms, Classrooms, Auditoriums, Worship spaces, Cinemas, Performing arts centers

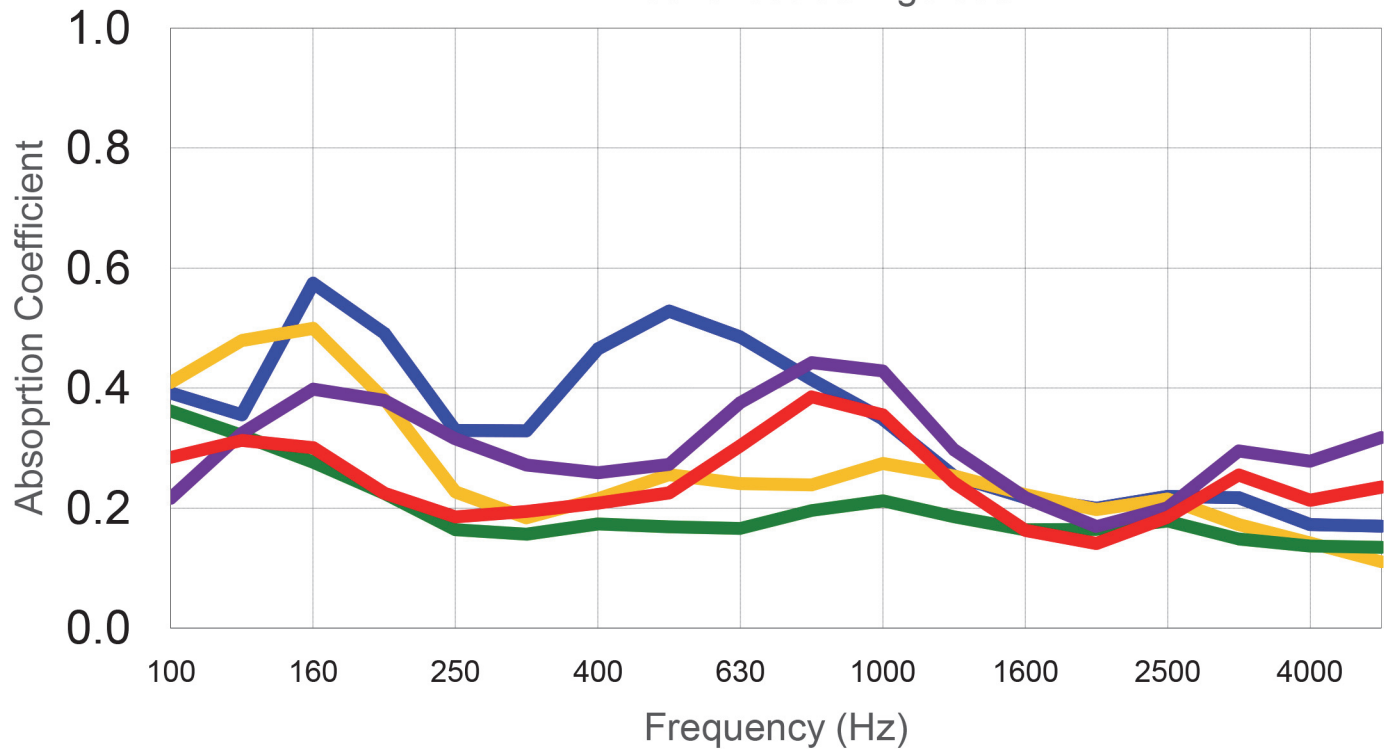
SPECIFICATIONS

- Size: 23-5/8" (H) x 23-5/8" (W) x 4" (D)
- Shipping Weight: 5 lbs.
- Standard finish: white
- Custom colors are available
- Class A Fire Rated





RPG® Sound Diffusing Ceiling Tiles Random Incidence Performance Data E-Mount Test Configuration



- Formedffusor
- Harmonix-K
- Harmonix-G
- Omniffusor-Wood
- Omniffusor-FRG

Chesapeake
Acoustic Research
Institute, LLC



Hz	Formedffusor	Harmonix-K	Harmonix-G	Omniffusor-Wood	Omniffusor-FRG
100	0.39	0.41	0.36	0.22	0.28
125	0.36	0.48	0.32	0.32	0.31
160	0.57	0.50	0.28	0.40	0.30
200	0.49	0.38	0.22	0.38	0.23
250	0.33	0.23	0.16	0.32	0.19
315	0.33	0.18	0.16	0.27	0.19
400	0.47	0.22	0.17	0.26	0.21
500	0.53	0.26	0.17	0.27	0.23
630	0.49	0.24	0.17	0.38	0.30
800	0.41	0.24	0.20	0.44	0.39
1000	0.35	0.27	0.21	0.43	0.36
1250	0.25	0.25	0.19	0.30	0.24
1600	0.22	0.22	0.16	0.22	0.16
2000	0.20	0.20	0.16	0.17	0.14
2500	0.22	0.22	0.18	0.20	0.19
3150	0.22	0.17	0.15	0.30	0.26
4000	0.17	0.14	0.14	0.28	0.21
5000	0.17	0.11	0.13	0.32	0.24