

Expanded Polystyrene Optimized Modulated Two Dimensional Quadratic Root Diffusor

A The Expanded Polystyrene Optimized Modulated Two Dimensional Quadratic Root Diffusor shall be the model Hemiffusor™ as manufactured by RPG® Diffusor Systems, Inc., Upper Marlboro, MD 20774. Tel: 301-249-0044, Fax: 301-249-3912.

B The Hemiffusor™ shall be molded utilizing a high density flame-retardant grade expanded polystyrene and coated in a flame retardant paint.

C The Hemiffusor™ shall work on the two dimensional optimized modulated quadratic root reflection phase grating principle, using an array of rectangular phase cavities. The depths of the phase cavities shall be based on the optimized modulated quadratic root number theory sequence based on prime 7. The diffusing panels are best installed in a random orientation to avoid any symmetry or periodicity of the arrayed surface.

D Absorption Coefficients and Noise Reduction Coefficient for the product shall be measured by an independent, accredited NVLAP facility according to the test methods as defined by ASTM C 423 and ASTM E 795. Random incidence Absorption Coefficients for the product in an A surface mounting shall be as follows:

125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC
0.22	0.60	0.38	0.38	0.25	0.21	.40

E Diffusion Coefficients for the product shall be measured in accordance with the recommendations of the Audio Engineering Society Working Group SC-04-02 boundary measurement technique. The directional diffusion coefficient is given by the standard deviation of the 1/3-octave polar response, for a given angle of incidence, and normalized by the response of a flat panel of similar size. The average incidence diffusion coefficients determined at 5° intervals between ± 85° are listed below at octave-band centers. The mean and standard deviation (SD) of the 1/3 octave-band coefficients are also tabulated.

125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	MEAN
0.80	0.70	0.71	0.67	0.76	0.74	0.70

H The overall dimensions shall be 23-5/8"(H) x 23-5/8"(W) x 4"(D) and weigh no more than 5 pounds.