



A glass tempering facility Eastern Pennsylvania

Innovative Metal Industries, Inc.

Blower Noise — Neighborhood Noise Issue

Issues:

- The client had been receiving complaints from neighbors regarding noise from the rear of their plant that operates two shifts/day and 5-6 days a week. The neighbors had threatened legal action to prevent night-time operations.
- The noise sources were the four Quench and Cooling Fans in their Blower Room. The motors ranged from 300 - 400 HP. The noise path was directly through the (8) 4' wide x 8' high damper/louver outdoor air intake units in the outside building wall.
- The noise level in the Blower Room at the damper was 103 dbA and on grade, approximately 20' from the outside building wall, the level was 88 dbA.
- The 15' height above ground at the top of the louvers created an unusual issue of noise radiation and structural considerations of wind loading for any exterior solution.
- The local Township code for nighttime operations, called for 50 dbA at the residential property line. The Township was considering operating restrictions during those hours, which would have cut the plant's output in half.

Solution:

- The client contacted their local Innovative Metal Industries (IMI) Representative for a solution.
- On-Site measurements were taken.
- IMI's local representative and their in-house engineering staff developed a viable solution using a very cost-effective "L-shaped" acoustical barrier wall utilizing IMI's Modular Acoustical Panel System.

Results:

- After installation, the measured noise level at grade and 20' from the building wall dropped ~30 db, to 58-59 dbA. At the complainant location, the level was down below 50 dbA, thus meeting the required night-time levels.
- Using IMI's modular approach, the structural design incorporated cost saving measures and still provided structural wind loading to 100 mph without the use of costly cross braces or modifications to the existing structure.

Some of the Advantages of using An Innovative Solution from Innovative Metal Industries:

- The modular design of IMI's Acoustical Panels allows easier erection, thereby providing lower installation costs, lower up-front acquisition costs and fewer modifications to surrounding structures.
- The interlocking panels used in the IMI Solution provide complete, easy maintenance access simply by lifting panels out.