

Special silencing, including high transmission loss construction, controls fan noise at Cleveland's Gateway Arena.

PROBLEM: Breakout noise

Huge rectangular ducts, over 20 feet wide, pass over the upper seats at the arena. This exposes the spectators to tremendous areas of duct radiated noise from large return fans.

SOLUTION: Silencers and ducts having high transmission loss (HTL) walls

HTL construction consisted of 10 gauge walls and acoustic glass fiber, protected by 22 gauge perforated metal.

PROBLEM: Insufficient straight duct

There was insufficient straight duct in the above mentioned ductwork to apply straight silencers for the substantial acoustic insertion loss needed.

SOLUTION: Elbow silencers

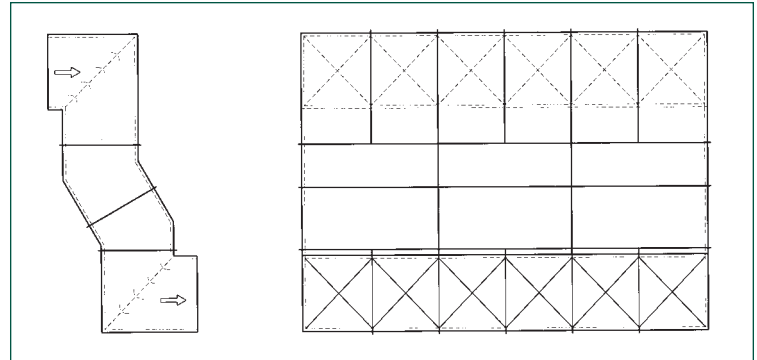
Elbow silencers, having HTL casings, were supplied in modular sizes for assembly on site.

PROBLEM: Installation time

Bolted flange construction was taking too long for installation.

SOLUTION: Field welding

The substitution of field welding proved to be a faster process for this project.



End view of HTL silencing system

Plan view of HTL silencing system 24 feet wide installed immediately overhead of spectators. Modular assembly from 4 foot by 4 foot elbow silencers shown.

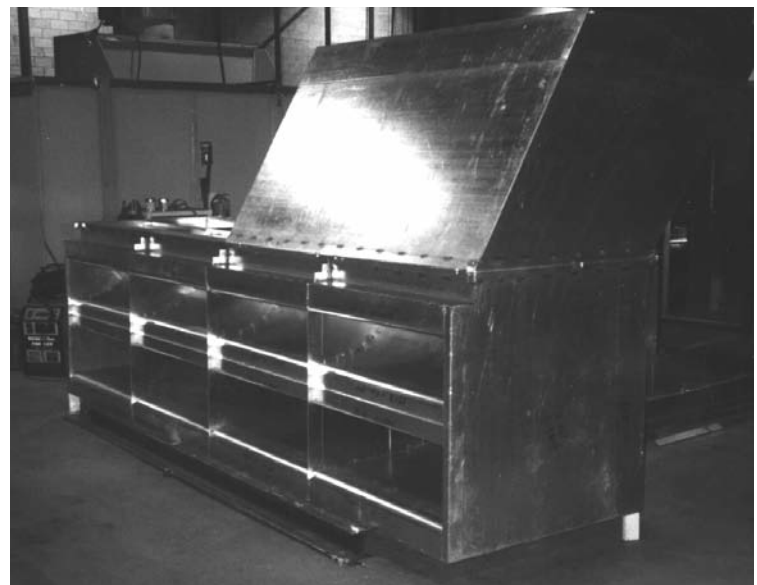


Photo of smaller elbow silencer HTL system component for a similar duct system (inlet view).