

Client and Application:

For over 50 years Borden Metal Products (Canada) Ltd. has been involved in the manufacture of bar-on-edge gratings at their plant in Beeton, Ontario. During this time, the name Borden has become synonymous with quality and dependability to grating users right across Canada. They produce a complete line of gratings in riveted, pressure locked, squeeze locked and resistance welded construction in carbon steel, aluminum and stainless steel alloys. In the welding area, there are six operators welding on metal grates and sheets constantly. The floor space is occupied with parts and the overhead crane is moving across the welding bay all day long. Therefore, they required a dust collection system to remove the haze of welding fume and reduce the concentration without interfering with the operation. The system needed to match the following design criteria:

- Curtain to enclose the welding bay and prevent the fume from escaping to the other areas
- Constant air exchange in the welding bay
- Special capture hoods and duct design to eliminate any interference with floor space and overhead crane
- High efficiency filtration system in order to return the clean air and save on energy (reclaim heated air)

Solution:

The solution was ambient capture (push & pull system) for welding fume. AST installed a 10,000 CFM dust collector for capturing and filtering the welding fume for the welding bay. By curtaining off the area from the ceiling to the floor on the open side (80ft long curtain), installing four 4'x 2' capture hoods on the outside of the external wall, and 34"D fabric duct along the curtain, we managed to create a proper amount of air exchanges in the welding bay. Therefore, welding fumes are getting captured and filtered during the hours of operation constantly. Furthermore, the system is equipped with a VFD control panel and pressure transducers for providing constant flow, saving energy and providing longer filter life.

Equipment:

One (1) DFO 4-16 downflo oval cartridge filter dust collector
One (1) TBI-30 BI centrifugal side mounted 30HP TEFC fan (10,000 CFM)
One (1) high performance silencer
One (1) AST-CP-VFD-30HP-575V control panel including VFD, pressure transducers, timer board, etc.
One (1) special capture hoods and fabric duct
One (1) vinyl curtain with see-through windows and man door
One (1) Fire Kit; blow back damper, fire damper and heat detector

Installation pictures:

Please click on the first picture below to play the video:



Industry:

Welding and Fabrication Shop

Contact:

For an update on the performance of the system, please contact:

Jim Sealy, P.Eng
President

Borden Metal Products (Canada) Ltd.
50 Dayfoot St., Box 10, Beeton, Ontario, L0G 1A0
Phone (905)729-2229 (800)263-2013; Fax (905)729-3116
Email j.sealy@bordengratings.com; Web www.bordengratings.com