

New Welding Lab

Maysville CTC Maysville, KY

Owner: Kentucky Finance Cabinet - DECA

User Agency: KCTCS

Contacts: David Marshall

Phone: 502.564.3155

Email: David.Marshall@ky.gov

Building Area: 3,000 S.F.

Construction Cost: \$ 700,000

Project Status: Completed

Project Description:

Provide an 18-booth state of the art welding lab with exhaust, electrical, and distributed shielding gas systems during a summer down period. Project included all new grinding room, adding film to both interior and exterior windows for eye protection, and finish upgrades to the space.



Engineering Highlights:

Mechanical:

Gone are the days where you exhaust 1000 cfm per booth and make up all that air with brute force makeup air units. The exhaust system for this project included using extraction arm intakes using 500 cfm each that allow exhaust air to be taken within 9 inches of the welding arc and recirculate the air through high efficiency filters. After the air is filtered it is delivered directly back into the space without the need of large energy wasting makeup air units. This direct and close method of fume capture keeps shops clean and safe.

Project also included a complete system of argon, oxygen, and acetylene piping to each booth for shield and welding gases.

Electrical:

Welding is an electric process. New power distribution was provided in the room with panels that were sized using NEC duty factors that allowed the electrical to be not oversized as most shops seem to be. Emergency shutdown circuits were designed to kill all shop welders and turn off all gas streams using electric solenoid valves.

All new lighting was provided overhead and out of the booth to allow more space within the booth and to eliminate shadows that in booth lighting commonly causes.