

CASE STUDY: NEW PRODUCT INSTALLATION (FLOORING)

Project Description: Odor Investigation Fitness Center

Scope of Services: AET was contracted to evaluate multiple occupant odor complaints in a fitness center which coincided with the installation of a new flooring system. No IAQ symptoms such as upper respiratory tract irritation, eye irritation or headaches had been reported. The flooring is a 1/4" rubber membrane rolled product which was applied via adhesive to the concrete floor slab.

Four Key Questions that Must be Answered:

1. Is the odor caused by the new flooring?
2. Can you rule out other odor sources which may be present?
3. Is the odor hazardous?
4. How can the odor be reduced or eliminated?

AET's Investigative Approach/Findings:

1. **Site Reconnaissance:** AET's IAQ investigator reviewed the flooring installation timeline and use of cleaning products for floor and equipment maintenance. A visual inspection of the walls, ceilings and floors was also completed for moisture impact to evaluate suspect mold growth. HVAC operating conditions were also reviewed.... **Findings:** *No other odor sources were identified.*
2. **Confirmation of Odor Source:** A roll of unused flooring material was stored within the basement of the facility. The odor of the unused flooring was similar to the odor noticed/reported by occupants.... **Findings:** *Investigation was subsequently targeted to the flooring material.*
3. **Contact Flooring Manufacturer:** A phone interview with the flooring manufacturer was conducted to confirm the proper application, use and installation of the flooring and associated adhesive/sealer used to secure the floor. Questions concerning past odor complaints with this product and how odor complaints were rectified were also discussed. Material Safety Data Sheets (MSDS) of the flooring, adhesive and sealer were obtained.... **Findings:** *The flooring application adhered to manufacturers guidelines and no past unresolved odor complaints had been reported.*
4. **Develop Sampling Plan:** Specific volatile organic compounds (VOCs) identified on the MSDS's were evaluated for their toxicity by AET's CIH Staff Professionals. Air sampling for the identified VOCs was implemented. Results were compared from the most stringent occupational standards as well as toxicological data where IAQ symptoms may occur.... **Findings:** *VOC results were found to be very low and/or non-detectable. The odor was deemed to be non-hazardous but its existence was confirmed by the IAQ investigator.*

CONCLUSION

The odor from the newly installed flooring material although non-hazardous was definitely objectionable and a nuisance to the fitness center occupants. Occupant concerns in regards to the toxicity of the odor were answered by the sampling data the results of which were presented to occupants by management. Interim controls to increase the amount of fresh air changes (ventilation rate) within the fitness center were implemented. ASHRAE 62.1-2013 recommends an HVAC system outside air entrainment level of 20 CFM per occupant within health clubs and workout facilities. Final resolution of the odor will be dependent upon the success of the interim controls implemented.

When you need professional IAQ advice email Alan Sutherland, CIH, CHMM at a.sutherland@aetinc.biz or call 610-891-0114. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services on our website www.aetinc.biz.

Accredited Environmental Technologies, Inc.