CASE STUDY: PCB CAULK/GLAZING - WINDOW REPLACEMENT

Project Description: Renovation of Industrial/R&D/Office Facility

Scope of Services: AET was contracted to evaluate PCB and asbestos content in the window caulk/glazing at this over 1,000,000 sf facility prior to window replacement. Over 250 window sets with an average of 4 window panels per set were evaluated by the collection of 58 representative samples over a 2 day sampling period. Each sample consisted of the collection of an approximate 4 inch section of caulk/glazing which was placed into uniquely numbered glass jars. Samples were analyzed for asbestos by Polarized Light Microscopy and PCBs using EPA Method SW846 Method 8082 and Method 3540C.

Results confirmed 17 of the 58 caulking/glazing samples to contain PCBs greater or equal to 50 ppm. All samples had detectable PCB content. The highest recorded PCB content was 67,000 ppm. Asbestos content was also found in every caulking and glazing sample.

AET's Experience: PCB containing caulk and glazing were used to make windows, doorframes, masonry and joints in buildings water tight or air tight during construction, renovations and repairs of buildings (including schools) in the 1950's through the late 1970's. PCBs were not added to caulk after 1979. PCB containing materials are regulated under TSCA 40 CFR 761 Regulations. Caulk containing PCBs at levels greater than or equal to 50 ppm is not authorized for use under TSCA and must be removed.

PCBs in caulk are known to contaminate adjacent building materials (masonry, wood, concrete) and peeling, cracking or visibly damaged caulk can contaminate soils surrounding the building. Any surrounding building materials that are contaminated by >50 ppm PCB-containing caulk is considered a PCB bulk product waste. Caulks containing <50 ppm PCB can remain in place.

Exposure to PCBs from caulks or glazing can occur via direct dermal contact, hand to mouth contact (ingestion) from contaminated surfaces and inhalation (even though the caulk is in good condition).

Window Replacement/PCB Remediation Plan:

1. Remove caulking on the window frame and disposed of as >50 ppm PCB waste.
2. Remove the window unit in its entirety (frame and glass) and dispose of as >50 ppm PCB waste.
3. Remove residual PCBs on masonry, block and wood (to the extent feasible) and encapsulate exposed surfaces. Install Gypsum board/drywall over windows (as necessary) as an additional enclosure method and as an architectural finish.
4. Complete PCB and asbestos remediation in accordance with the Health and Safety Plan (HASP) developed for this project. This HASP includes levels of protection to be worn by the workers during work and protective measures used during abatement procedures including final clearance criteria to verify contractor completion of specified work.
5. Dispose of PCB bulk product waste containing >50 ppm PCBs per 40 CFR 761.62.

When you need professional industrial hygiene 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.

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