Once removal and disposal operations are finished, the need to apply a sealant on the exposed surface must be evaluated. This is also the time to decide whether to reinsulate or resoundproof with asbestos-free materials. In general, sealants are necessary where the underlying surfaces are porous (for example, concrete blocks or slabs), since a few fibers usually remain after removal.

Cost of asbestos removal varies widely among regions and among specific jobs. For example, the cost for both removal and disposal ranges from $2 to $13 per square foot (USEPA 1980).* Sealant and insulation replacement costs are additional.

3.3.1.2 Enclosure

As the term implies, enclosure involves construction of airtight walls and ceilings around surfaces coated with asbestos-containing materials. Enclosures should be constructed with impact-resistant materials. Since the asbestos-containing materials will have to be removed when the building is remodeled or demolished, enclosure is only a temporary solution. On the other hand, carefully constructed, airtight enclosures may reduce, if not eliminate, emission of fibers within the building for its remaining life.†

Figure 11 shows a typical enclosure project. The following observations supplement the discussion in Part 2 (Section 3, Part II) of initial EPA guidance (Sawyer and Spooner 1979) on enclosures:

- As noted above, OSHA regulations and EPA recommendations for protecting workers and building occupants are not binding for enclosure activities. But using respirators and containment barriers is certainly a good idea. Installing an enclosure will probably mean drilling and anchoring into dry asbestos-covered surfaces. This releases dry asbestos fibers and could raise airborne asbestos concentrations to highly dangerous levels. Drills equipped with HEPA vacuum filters will reduce fiber release.
- Underlying structures must be able to support new walls and ceilings.
- New construction material should be impact-resistant and assembled to be airtight. Gypsum panels taped at the seams, tongue and groove boards, and boards with spline joints all qualify. Suspended ceilings with lay-in panels do not. Joints between walls and ceilings should be caulked.
- If lights are recessed into asbestos-containing material, they must be removed carefully to minimize the release of fibers. Lights should be reinstalled in or beneath the new ceiling.
- Plumbing lines and computer cables may have to be relocated.
- Building records must note the presence of asbestos behind the enclosure to prevent accidental fiber release during remodeling and building demolition. Cautionary signs placed on the enclosure may be a good idea.

When appropriate worker protection and worksite containment measures are employed, the initial cost of constructing enclosures is close to that of asbestos removal and disposal. Since sealing the substrate and replacing asbestos-containing material are not required, total project cost for enclosure initially may be somewhat lower. But the cost of periodic inspections and repair of enclosures for the life of the building, and of asbestos removal before demolition, may eliminate this cost saving in the long run.

*This cost range also reflects the experience of several Regional Asbestos Coordinators.

†No enclosure will be literally airtight. The building practices recommended here are designed to greatly reduce air movement across the enclosure boundary.

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