

FILE NAME: Allied Signal Bendix (ASB)

DATE: 2013 Jan 31

DOC#: ASB131

DOCUMENT DESCRIPTION: Recommended Industrial Hygiene Practices for Asbestos

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

1.0 APPLICABILITY

- 1.1 This procedure is applicable to all Honeywell organizations and majority owned subsidiaries worldwide where asbestos containing materials (ACM) are present. It establishes minimum requirements that must be met by all organizations
- 1.2 In addition to complying with the requirements established by this procedure, organizations must ensure that they are in compliance with all applicable national, state, and local legal requirements (Country Requirements)
- 1.3 Each applicable Honeywell site or organization must customize this procedure or use the Corporate approved SBG's equivalent procedure to establish a site-specific Operations and Maintenance Plan – (See Attachment 6.1) that meets all applicable Country Requirements. The O&M Plan will remain in effect until all ACM has been removed from the facility
- 1.4 Each Honeywell site or organization must review and revise its procedure to eliminate any conflicts with Country Requirements and to add any Country Requirements not included in this procedure
- 1.5 To the extent that the requirements of a Honeywell Procedure exceed the applicable Country Requirements, and do not conflict with them, the more demanding requirements of the Honeywell Procedure shall apply.
- 1.6 Whenever a Honeywell Procedure is more stringent than the applicable national, state, and local regulations, the Honeywell Procedure shall apply.
- 1.7 Honeywell organizations that have determined that this procedure is not applicable to them do not need a site procedure on this topic. The organization must document in its SAT the rationale for determining that this procedure is not applicable

2.0 OVERVIEW

- 2.1 This standard covers asbestos within Honeywell facilities, and is intended to assure that potential ACM risks are identified, evaluated and controlled.
- 2.2 Honeywell employees shall not remove or disturb ACM at customer facilities, and shall avoid work practices, which are likely to release asbestos fibers. Examples of such work practices may include work in ceiling plenum areas where ACM is deteriorated or breaking away and removal of ceiling tiles, which have fallen ACM debris on the upper surfaces.
- 2.3 Contract personnel who work with asbestos in Honeywell facilities are required to follow this procedure during abatement projects, facility renovations, maintenance repairs, demolition, facility closure and emergencies

3.0 DEFINITIONS

- 3.1 Definitions for underlined text are found at the end of this document.

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

4.0 REQUIREMENTS

4.1 Responsibilities

- 4.1.1 Site Leader – Individual with overall accountability for ensuring the asbestos control program is implemented and followed and providing necessary resources.
- 4.1.2 Line Supervision – Implement requirements of the asbestos control procedure as applicable to area of responsibility.
- 4.1.3 Asbestos Worker – Comply with the organization's asbestos control procedure when performing Asbestos Work.
- 4.1.4 Employees – Comply with the organization's asbestos control procedure and report any inconsistencies or concerns with its implementation or effectiveness.
- 4.1.5 HSE Representative or Designee –The individual who ensures this asbestos control procedure is being carried out and systematically managed. See Attachment 6.1 for additional details
- 4.1.6 Honeywell Competent person – implements elements of this asbestos control procedure and supervises Asbestos Workers involved with Asbestos Work. See Attachment 6.1 for additional details.
- 4.1.7 Facilities and Maintenance personnel are responsible for advance partnering with the Competent Person on all Asbestos Work. See Attachment 6.1 for additional details

4.2 Restrictions

- 4.2.1 ACM shall not be purchased for use in Honeywell facilities.
- 4.2.2 Honeywell prohibits the use of ACM in construction of new buildings or building renovation projects. See Section 5.1 Reference Documents for link to the Honeywell Workplace Standard.
- 4.2.3 Employees must discontinue work immediately upon an unplanned encounter or disturbance of any suspect, presumed or known ACM, including encapsulated materials, and notify their supervisor (either within Honeywell facilities or at customer sites). The Supervisor shall notify the Competent Person.
- 4.2.4 Only employees who have been trained and certified as required by Country Requirements and this procedure shall perform Asbestos Work.
- 4.2.5 Subject to any further restrictions imposed by Country Requirements, either Honeywell Asbestos Workers or a Qualified Asbestos Abatement Contractor (QAAC) may perform Small-Scale, Short-Duration Asbestos Work. All other Asbestos Work shall be performed by a QAAC that is properly licensed as required by Country Requirements and operates under the oversight of the Honeywell Competent Person (if available onsite) or the Honeywell Contractor Representative.
- 4.2.6 Dry machining, cutting, grinding, sanding or abrading of ACM (friable and non-friable) is prohibited. Refer to Work Practices for Small-Scale, Short-Duration ACM Work

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

(Attachment 6.2) and Model ACM Abatement Plan (Attachment 6.3) for proper Asbestos Work procedures.

- 4.2.7 Only authorized personnel shall be permitted to enter a Restricted Area and only when wearing the required personal protective equipment. Smoking, eating, drinking, tobacco use, gum chewing and application of cosmetics shall not be permitted in Restricted Areas

4.3 Identification of ACM

- 4.3.1 A basic survey shall be conducted to document where there is presumed asbestos-containing material (PACM) and known ACM in Honeywell owned or controlled buildings, equipment or processes. The survey may be conducted by onsite HSE, a competent person or an outside contractor all of whom must be qualified as required by Country Requirements. See Attachment 6.1 Section 4.3 for additional details and Attachment 6.4 Inspection of Potential ACM Form (or equivalent) to be used to document the basic survey.
- 4.3.2 The presence of Presumed Asbestos Containing Material (PACM) and/or ACM in buildings and equipment shall be a consideration in leasing or purchasing buildings (directly or through business acquisitions that include real estate). When the transaction will include Honeywell controlled or owned buildings, equipment or processes, due diligence document requests must include the information in Attachment 6.5 ACM Survey Real Estate Requirements.
- 4.3.3 PACM will be treated as asbestos unless a representative bulk sample is collected and analyzed and found to be < 1% asbestos. See Bulk Sampling Procedure in Section 5 of Attachment 6.2.
- 4.3.4 PACM and known ACM shall be identified using labels, color coding or other means such as placards to readily identify ACM. Labels shall be placed on equipment and piping such as boilers, structural beams, ceilings, and pipe with ACM insulation. In some cases, the label is posted in an area, such as the entrance to a pipe chase or tunnel where ACM is present. Additional labeling shall be placed as specified in Country Requirements.
- 4.3.5 Bulk sampling shall be conducted when a site decides to renovate or demolish areas within a facility, and there is PACM or suspect ACM that may be hidden by non-ACM finishes.
- 4.3.6 The initial survey required by this procedure shall be completed within 6 months of the effective date of this procedure. The survey shall be updated on an ongoing basis to reflect changes.
- 4.3.7 An inspection of ACM shall be conducted annually to monitor the condition of the materials. The inspection shall include a documented visual inspection by the Competent Person or designated qualified inspector (per Country Requirements) to determine its current condition. The inspector(s) shall

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

and a Honeywell Competent Person (if the facility has such a person) will have a coordination and oversight role.

4.5.4 Prior to initiating what may be Asbestos Work, the Pre-Job Request for Asbestos Evaluation in Attachment 6.2 or 6.3 (or equivalent) shall be completed and submitted to HSE for an approval decision. If ACM is not present, or will not be disturbed, authorization to proceed with work is granted.

4.5.5 If ACM is present and may be disturbed by the proposed work the Pre-Job Planning Asbestos Abatement Checklist and written work plan must be prepared, approved by the facility's Competent Person, submitted to HSE for review and approval before the work may begin. See Attachments 6.2 and 6.3 for checklist and plan requirements for Small Scale Short Duration and Standard ACM Work.

4.5.6 Before a Honeywell facility may hire an outside contractor to perform any Asbestos Work at the facility, the information listed in Attachment 6.1 Section 4.5.4 must be provided by the contractor. This information shall be incorporated into a written work plan and services agreement covering the Asbestos Work to be performed by the contractor.

4.6 Training and Awareness

4.6.1 Asbestos awareness training shall be provided to Honeywell Contractor Representatives, Honeywell supervision and Honeywell employees (including new employees) working in or adjacent to areas containing ACM. Contractors shall provide asbestos awareness training to their employees.

4.6.2 Awareness training shall be provided every 3 years, unless required more frequently by Country Requirements. Honeywell employees shall be notified of the following: (1) the presence of ACM at the site; (2) the methods used by the facility to identify ACM (e.g., color coding, labels, signs, etc.); (3) the location of ACM, where appropriate; and (4) any additional information required by Country Requirements (See Attachment 6.6, Asbestos Safety Awareness). This training may be conducted as part of the site's chemical hazard communication training program.

4.6.3 Honeywell Asbestos Workers shall complete an Asbestos Workers training course that includes how to recognize ACM, health effects of exposure, Honeywell asbestos control procedures, regulatory requirements, the nature of the operations they will perform and control methods required to minimize exposure. See Attachment 6.6 for details of the required training program. This training course shall also include "hands-on" training and meet the minimum training hour's requirement specified by Country Requirements.

4.6.4 The Competent Person shall complete a training course equivalent to the Asbestos Worker course (Attachment 6.6) and supervisor level training as required by Country Requirements on how to apply operations and maintenance procedures, abatement methods, inspection, air and bulk sampling methods and other practices for reducing

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

the potential hazard. The training course shall also include "hands-on" training and meet the minimum training hour's requirements specified by Country Requirements.

4.6.5 Asbestos Worker and Competent Person refresher training shall be conducted annually.

4.6.6 Honeywell will rely on asbestos training available in each country or region to fulfill the requirements for asbestos inspectors, workers and competent persons. If training is not available for Honeywell employees within a country or region, training may be obtained in another region where it is available, or the site may elect not to work with ACM and contract out the work as part of the site asbestos control program.

4.7 Notifications

4.7.1 Employees working in or adjacent to an area where ACM is being abated shall be informed of the work to be performed, the duration, and the requirement to avoid entering the Restricted Area.

4.7.2 As part of the contractor safety briefing, representatives of contractors working at the facility shall be notified of the following: (1) the presence of ACM at the site; (2) the methods used by the facility to identify ACM (e.g., color coding, labels, signs, etc.); (3) the location of ACM, where appropriate; and (4) any additional information required by Country Requirements (See Attachment 6.6, Asbestos Safety Awareness).

4.7.3 Notification to regulatory agencies (in accordance with Country Requirements) shall be made by the asbestos contractor upon Honeywell acceptance of the project scope of work, or by the HSE Representative when work is performed by Honeywell employees

4.8 Restricted Area

4.8.1 A Restricted Area shall be established for all ACM abatement projects, all repair and maintenance projects where ACM is likely to be disturbed, and whenever airborne asbestos concentrations can be reasonably expected to exceed any Occupational Exposure Limit (see Section 4.4). The measures to be taken to establish the Restricted Area shall be documented in the Pre-Job Planning Asbestos Abatement Checklist and, where applicable, the ACM Abatement Plan. See Attachment 6.1 for additional details on establishing a regulated area

4.9 Air Monitoring

4.9.1 A written sampling plan, incorporating the Limits of Exposure (see Section 4.4), shall be developed by the HSE Representative during the pre-job planning process. The sampling plan shall address key exposure potentials, the type of samples to collect (breathing zone, area and clearance); number and placement of samplers, storage and shipping of samples, and the analytical methods to assure that the results are accurate and representative of potential employee exposures. The sampling plan shall be documented on the Pre-Job Planning Asbestos Abatement Checklist (and the Asbestos Abatement Plan, where applicable) and incorporated into the services

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

agreement for any Asbestos Work performed by an outside contractor. See Attachment 6.1 for additional details on developing a sampling plan

4.10 Personal Protective Equipment: The following personal protective equipment must be worn when performing Asbestos Work

- 4.10.1 Properly selected approved respirator (see Attachment 6.2 or 6.3 for Respirator Selection Chart)
- 4.10.2 Disposable hooded coveralls with elastic around the wrists. The openings between the coveralls and the gloves and boots shall be sealed with duct tape.
- 4.10.3 Steel toe boots, disposable rubber gloves, safety glasses and hardhat. Rubber shoe covers are recommended since they are more durable and can be easily cleaned. Alternatively, disposable shoe covers may be worn over boots

Transportation and Disposal of ACM Waste

4.11 Transportation and Disposal of ACM Waste

- 4.11.1 ACM waste shall be transported and disposed at a waste disposal site in accordance with Country Requirements and Honeywell Waste Management Procedure 407 as applicable (see Section 5.2 Reference documents). See Attachment 6.1 for additional details on transportation and disposal of asbestos waste

4.12 Medical Surveillance : The following employees shall receive medical examinations as defined by the Asbestos Medical Examination procedure (See Attachment 6.8)

- 4.12.1 All employees potentially exposed to asbestos at or above any OEL
- 4.12.2 All employees who perform asbestos abatement or ACM repair and maintenance tasks where ACM is likely to be disturbed.
- 4.12.3 Additional employees shall be included in the Medical Surveillance Program as required by Country Requirements. See also the Example Initial and Periodic Medical Questionnaire (See Attachment 6.9)

4.13 Record Retention :

- 4.13.1 Documents that must be maintained by the facility include
 - 4.13.1.1 An updated copy of the Operations and Management Plan and associated records will be maintained at the site.
 - 4.13.1.2 Survey reports and laboratory analyses.
 - 4.13.1.3 Training records.
 - 4.13.1.4 Completed Pre-Job Request for Asbestos Evaluation Forms.
 - 4.13.1.5 Completed Pre-Job Planning Asbestos Abatement Checklists.
 - 4.13.1.6 ACM Abatement Plans, ACM services contracts, and associated records submitted by Contractors.
 - 4.13.1.7 ACM project notifications to regulatory agencies.

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

4.13.1.8 Exposure monitoring records.

4.13.1.9 Waste manifests and disposal records.

4.13.1.10 Completed Asbestos Inspection Checklists.

4.13.1.11 Records of areas where ACM was removed or encapsulated.

4.13.1.12 Additional records as required by Country Requirements

4.13.2 Records associated with this standard shall be retained as required by the schedule listed in Honeywell Records and Information Management (see [Section 5.3](#) Related Documents for link), but, in any event, not less than any longer retention period required by Country Requirements or specified by the Honeywell Legal Department)

4.14 Annual Program Review and Audit

4.14.1 The Asbestos Control Program shall be evaluated as part of the Corporate HSE audit – (see [Attachment 6.10](#)).

4.14.2 In addition to reviewing the results of the annual inspection required by Section 4.3.4, the site HSE Rep or designee shall also conduct an evaluation of the Asbestos Control Program as part of the annual HSE Self-Assessment (SAT). Annual evaluations and related corrective actions shall be communicated to appropriate levels of management, and documented in the SAT tool and Event Tracking System (ETS). The evaluation shall, at a minimum, verify that the asbestos control procedures are properly utilized and effective, and recommend any appropriate changes to those procedures

5.0 REFERENCE DOCUMENTS

5.1 [Honeywell Workplace Standard](#)

5.2 HSEMS 407 Waste Management Procedure.

5.3 HSE Records and Information Management

6.0 ATTACHMENTS

6.1 [Sample Site Operations and Maintenance Plan](#)

6.2 [Work Practices for Small-Scale, Short-Duration ACM Work](#)

6.3 [Model ACM Abatement Plan](#)

6.4 [Inspection of Potential ACM Form](#)

6.5 [ACM Survey Real Estate Requirements](#)

6.6 [Asbestos Safety Awareness](#)

6.7 [Asbestos Worker Training Requirements](#)

6.8 [Asbestos Medical Examination](#)

6.9 [Asbestos Questionnaire](#)

6.10 [Corporate HSE Audit Checklist](#)

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

7.0 REVISION LOG

Revision Number	Section Number	Revised By	Revision Date	Description of Change
1	4.3.2, 6.5 and 8	IHSC	01/31/2013	Updated Attachment 6.4 Inspection form instructions used for conducting an ACM survey, to allow excluding a survey when building is contracted after date of country ban. Added a new Attachment 6.5 to provide guidance on conducting a survey as part of the real estate process. Added new definition for Honeywell Controlled Building.

8.0 DEFINITIONS

Abatement	Procedures to decrease or eliminate fiber release from asbestos containing materials. Includes encapsulation, enclosure and removal. Note: Under some Country Requirements, encapsulation is classified as a repair rather than abatement.
Asbestos	Includes: (1) chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, and actinolite asbestos; (2) any of these minerals that have been chemically treated and/or altered; and (3) PACM.
Asbestos Containing Material (ACM)	Any materials containing 1% or more asbestos by volume.
Asbestos Work	All activities that will (or are likely to) remove or disturb ACM, or release fibers of ACM. This includes asbestos abatement projects and any other activities (e.g., general maintenance work, facility renovations, demolition, facility closure and emergencies) when they will (or are likely to) disturb ACM, or release ACM fibers.
Asbestos Worker	Individuals certified and trained to perform Asbestos Work.
Competent Person	A person who is capable of identifying existing asbestos hazards in the workplace, and has the authority to take prompt action to eliminate them. The duties of the Competent Person include managing Asbestos Work and supervising Asbestos Workers and activities associated with ACM operations, maintenance, repair and abatement projects. The Competent Person may be an HSE Rep., Honeywell Contractor Rep, or other person designated and properly trained to perform these duties.
Country Requirements	All applicable national, state, and local legal requirements.

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

Encapsulation	Coating asbestos-containing material with a penetrating or bridging sealant to prevent release of asbestos fibers into the air.
Exposure	A specific contact with friable asbestos containing material that is suspected to have resulted in respiratory exposure exceeding any asbestos OEL.
Fibers	A particulate form of asbestos which is 5 micrometers or larger with a length-to-diameter ratio of at least 3 to 1.
Friable	Any material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. This includes nonfriable asbestos-containing materials that will be subjected to sanding, grinding, cutting, abrading, drilling, or other procedures likely to reduce those materials to a powder or cause asbestos fibers to become airborne.
Honeywell Controlled Building	A leased facility where Honeywell is responsible for normal day to day building and facility related equipment maintenance and repair as part of the contract. This includes performing necessary repairs and maintenance or hiring an outside contractor.
Non-Friable Asbestos	A material composed of greater than 1% asbestos that is bound by a matrix such as a mastic that cannot readily release fibers and may not be crumbled, pulverized, or reduced to powder by hand pressure. Examples of non-friable ACM may include floor tile and mastic, asphalt roofing products, transite wall board and some types of gasket and packing materials.
Occupational Exposure Limit (OEL)	Refers to maximum permitted level of exposure mandated by law, recommended by a consensus body or other recognized organization, or established by Honeywell. OEL's are generally set at a level at which, based on available information, it is believed nearly all workers can be repeatedly exposed without adverse health effects. However, the OEL's for asbestos were established at the lowest exposure levels that could be reliably measured, and there is evidence suggesting that chronic exposures to asbestos at levels below the OEL's pose sufficient risk to justify the use of respirators whenever engaged in Asbestos Work. Where a mandatory OEL is absent or is less restrictive, the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) shall be used to determine acceptability of exposures in the workplace.
Operations and Maintenance Plan	A set of well-defined practices and procedures, which will be implemented by Honeywell to minimize potential exposure of all building occupants to asbestos fibers in buildings where ACM is present.

Honeywell	HSE Management System Level 2 Standard	Document Owner		Al Shaw	
		Approved By		Mike Csedrik	
		Issue Date		September 30, 2010	
Industrial Hygiene Asbestos		Effective Date		January 31, 2013	
		Rev. # & Date		01	January 31, 2013
		Standard #		HSEMS 369	

Presumed Asbestos Containing Material (PACM)	Instead of requiring building owners and/or employers to perform a comprehensive building survey for installed asbestos, many Country Requirements adopt a "presumptive rule." Under this rule, building owners and employers must identify certain widely prevalent and more risky building materials and treat them as ACM for all purposes unless and until they are proven not to be ACM through bulk sampling and analysis. These materials are termed "presumed asbestos containing materials" (PACM). In the United States, these materials are thermal system insulation (TSI) and sprayed-on and troweled-on surfacing materials installed in buildings built no later than 1980. In the United States, asphalt and vinyl flooring material installed no later than 1980 also must be treated as asbestos-containing, but are not subject to all of the requirements applied to TSI and surfacing ACM.
Qualified Asbestos Abatement Contractor (QAAC)	A contractor that: (1) employs Asbestos Workers with sufficient experience and training in asbestos abatement, worker protection and developing and implementing site containment plans; and (2) is licensed to perform the Asbestos Work it was hired to perform at the Honeywell facility, if licensing is required by Country Requirements. A qualified contractor must provide documentation on insurance and financial performance as required by Honeywell legal and procurement.
Restricted Areas	A marked-off area established to identify locations where (a) asbestos abatement is being performed, (b) ACM repair and maintenance operations are being performed, or (c) where airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed any OEL's for asbestos.
Small-Scale, Short-Duration ACM Work	This is Asbestos Work that, because of its small scale and short duration, poses a reduced risk and is subject to less demanding control requirements. A job, such as repair to a pipe or valve, which involves less than 25 linear feet (7.6 meters) of pipe covered with ACM insulation, or less than 10 square feet (0.9 square meters) of ACM surfacing material meets this definition unless smaller quantities are specified by Country Requirements. A small job is usually defined as one that generates no more debris than the quantity of material that would fill one glove bag.