

BASE Buildings Test Space HVAC Inspections: Condition of Air Handling Unit (AHU) Components and Ductwork

Equipment Condition	Number of Test Space Air Handlers											
	AHU Housing - General ¹	AHU Housing - Sound Liner ²	Intake ³	Dampers ⁴	Coils ⁵	Drain Pans ⁶	Fan Belts ⁷	Ductwork - General ⁸	Ductwork - Seam Leakage ⁹	Duct Liners ¹⁰	Terminal Units- General ¹¹	Terminal Units- Dampers ¹²
Good	74	54	74	87	65	37	84	72	67	55	59	47
Fair	53	55	52	34	49	53	37	56	56	37	21	16
Poor	8	9	11	10	15	36	2	1	7	5	2	1
Total Number of Test Space Air Handlers	135	118	137	131	129	126	123	129	130	97	82	64

Notes:

- ¹Data represent statistics for 135 study space air handling units. Six air handling units indicated no response for this variable.
²Data represent statistics for 118 study space air handling units. Twenty-three air handling units indicated no response for this variable.
³Data represent statistics for 137 study space air handling units. Four air handling units indicated no response for this variable.
⁴Data represent statistics for 131 study space air handling units. Ten air handling units indicated no response for this variable.
⁵Data represent statistics for 129 study space air handling units. Twelve air handling units indicated no response for this variable.
⁶Data represent statistics for 126 study space air handling units. Fifteen air handling units indicated no response for this variable.
⁷Data represent statistics for 123 study space air handling units. Eighteen air handling units indicated no response for this variable.
⁸Data represent statistics for 129 study space air handling units. Twelve air handling units indicated no response for this variable.
⁹Data represent statistics for 130 study space air handling units. Eleven air handling units indicated no response for this variable.
¹⁰Data represent statistics for 97 study space air handling units. Forty-four air handling units indicated no response for this variable.
¹¹Data represent statistics for 82 study space air handling system with terminal units indicating a response for general condition.
¹²Data represent statistics for 64 study space air handling system terminal units indicating a response for damper condition.

Variable Descriptions:

Air Handler Housing - General Condition refers to the general condition of the test space air handling unit housing based on the following grading system:

- Good - Clean with metal panels securely in place
- Fair - Dusty and/or some gaps at seams
- Poor - Very dirty and/or many gaps at seams and/or metal panels loose

Air Handler Housing - Sound Liner refers to the general condition of the test space air handling unit sound liner based on the following grading system:

- Good - Clean, dry, and securely in place
- Fair - Moist in places and/or loose in some spots
- Poor - Very dirty and/or moist and falling from panels at many locations

Air Handler Components - Intake refers to the general condition of the test space air handling unit outdoor air intake based on the following grading system:

- Good - Clean insect screen, no debris inside plenum, linkages in good condition, and minimum dampers open
- Fair - Insect screen needs cleaning and/or some debris inside plenum and/or linkages need maintenance
- Poor - Insect screen partially blocked and/or much debris inside plenum and/or linkages broken or in very bad condition and/or minimum dampers closed

Air Handler Components - Dampers refers to the general condition of the test space air handling unit dampers based on the following grading system:

- Good - Linkages in good condition, dampers in correct positions, closed dampers fully closed and not excessively leaky, and properly positioned
- Fair - Linkages need maintenance and/or small deviations from correct positions and/or closed dampers leaking
- Poor - Linkages broken or in very bad condition and/or dampers not in correct positions

Air Handler Components - Coils refers to the general condition of the test space air handling unit coils based on the following grading system:

- Good - Coils clean
- Fair - Coils somewhat dirty
- Poor - Coils very dirty

Air Handler Components - Drain Pans refers to the general condition of the test space air handling unit condensate drain pans based on the following grading system:

- Good - Drain pans clean and draining well
- Fair - Some residue in pans but still draining
- Poor - Drain pans very dirty and/or poor drainage from pans

Variable Descriptions: (continued)

Air Handler Components - Fan Belts refers to the general condition of the test space air handling unit fan belts based on the following grading system:

- Good - Belts in good condition
- Fair - Belts somewhat worn and/or will need replacement soon
- Poor - Belts fraying or broken and/or need immediate replacement

Air Distribution Ductwork - General Condition refers to the general condition of the test space air handling unit distribution ductwork based on the following grading system:

- Good - Clean and dry, securely in place, and well labeled
- Fair - Some dust and moisture and/or some ducts not securely in place
- Poor - Very dirty and/or significant moisture and/or some ducts poorly secured

Air Distribution Ductwork - Leakage at Seams describes the general condition of the test space air handling unit distribution ductwork in terms of duct seam leakage based on the following grading system:

- Good - No or minimal leakage
- Fair - Small leaks at only some locations
- Poor - Large leaks at many locations

Air Distribution Ductwork - Liners refers to the general condition of the test space air handling unit distribution ductwork liners based on the following grading system:

- Good - Clean, dry, and securely in place
- Fair - Moist in places and/or loose in some spots
- Poor - Very dirty and/or moist and/or very loose at many locations

Terminal Units - General Condition refers to the general condition of the test space air handling unit distribution ductwork terminal units based on the following grading system:

- Good - Components clean and in good physical condition
- Fair - Components somewhat dirty and/or some deterioration evident
- Poor - Components very dirty and/or some components seriously deteriorated

Terminal Units - Dampers refers to the general condition of the test space air handling unit terminal unit dampers based on the following grading system:

- Good - Dampers clean and linkages in good condition
- Fair - Dampers somewhat dirty and/or some deterioration of linkages evident
- Poor - Dampers very dirty and/or linkages seriously deteriorated and/or dampers unable to modulate