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*Guidance for Section 01 81 09*

# GUIDANCE for SECTION 01 81 09 – TESTING FOR INDOOR AIR QUALITY

This Specification section is intended to define terms and lay out general procedures and requirements for testing to ensure adequate indoor air quality prior to occupancy of a new or refurbished facility. The scope of this document is limited to testing procedures and performance thresholds for those tests, including both testing of indoor air prior to occupancy, and testing of products and materials to be used in construction. Measures of managing indoor air quality during construction are addressed in Section 01 81 13.

Threshold values in this document have been determined largely based on interviews with indoor air researchers at U.S. EPA's Research Triangle Park Campus. The most overarching recommendation was to cite California Department of Health Services protocols for testing of materials, and California's chronic reference exposure levels (CRELs) for compounds of concern in establishing indoor air performance thresholds. These choices are consistent with those of U.S. EPA's program office in Washington, D.C.

## *Relationship to LEED*

Because of the decision to cite the California-based protocol for product testing and performance thresholds, this specification is significantly more stringent in its requirements than LEED for New Construction version 2.2, with the exception of certain compounds that are referenced in LEED but omitted from this specification because it was deemed unnecessary to test for them. Those tests can be added, however, if needed to conform with LEED's requirements.

The protocol for testing of indoor air prior to occupancy follows the original EPA RTP Section 01445 and is consistent with LEED-NC version 2.2 in citing the US EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air.

## *Mold and Mildew Tests*

The sampling and analytical methods for speciating fungi have evolved significantly in the last decade. Based on consultations with EPA researchers, this specification calls for DNA detection using quantitative polymerase chain reaction (QPCR). The QPCR method is more reliable and consistent than conventional morphology using visual identification, which is highly dependent on the experience of the technician.

This method allows for accurate detection and speciation of more fungi that typical morphology. Given the relative dearth of experience with comparative indoor-outdoor fungal tests in new construction, the threshold of 10% differential in species between indoors and out is not well established, and should be revisited over time.