



LEED Testing

v3 2009

The below methods are recommended by EMSL Analytical, Inc. for LEED v3 2009 **IAQ Management Plan - Before Occupancy Testing, Option 2**. These methodologies should be approved by LEED prior to sampling:

Parameter	Method	Media	EMSL Part #	Equipment	EMSL Part #	Flow Rate	Sampling Time	Volumes	LEED Recommended Max. Concentration
TVOC	EPA TO-15 with Library Search and TVOC Calculation	Whole-Air Sample	N/A	Evacuated Canister w/flow controller	87IH064 (6L 4-hr) 87IH062 (6L 8-hr) 87IH156 (1.4L 4-hr) 87IH158 (1.4L 8-hr)	Varies	4-8 hours	1.4- 6L	500 ug/m ³
Carbon Monoxide	Drager CMS	Whole-Air Sample	N/A	Evacuated Canister w/flow controller	87IH064 (6L 4-hr) 87IH062 (6L 8-hr) 87IH156 (1.4L 4-hr) 87IH158 (1.4L 8-hr)	Varies	4-8 hours	1.4- 6L	9 ppm, no more than 2ppm above outside level
Carbon Monoxide-Alternate	EPA IP-3C Electrochemical Sensor	N/A	N/A	Real-Time Monitor	87RD013	Varies	4-8 hours	N/A	9 ppm, no more than 2ppm above outside level
4-phenyl-cyclohexene (4-PCH, New Rug Odor)	NIOSH 1501M	Coconut-Shell Charcoal Sorbent Tube	87IH028	Personal Sampling Pump	87IH005	0.1 lpm	4-8 hours	24- 48L	6.5 ug/m ³
Formaldehyde	NIOSH Method 2016	DNPH-Treated Silica Gel Sorbent Tube	87IH030	Personal Sampling Pump	87IH006	0.1 lpm	4-8 hours	24- 48L	27 ppb
Formaldehyde	NIOSH Method 2016	DNPH-Treated Passive Sampler	87IH034	Passive Sampler (Badge)	N/A	0.0162 lpm	4-8 hours	3.9-7.8L	27 ppb
PM-10 Particulate	EPA IP-10A (SKC-Modified)	37 mm Prew weighed 2.0 um PTFE Filter	87IH091	Pump, Personal Environmental Monitor (PEM) and pump kit	87IH090	10 lpm	4-8 hours	2400-4800L	50 ug/m ³
PM-10 Particulate-Alternate	Particle Counter	N/A	N/A	Real-Time Monitor	N/A	Varies	1 Min. (Clean Room)- 15 Seconds (Dusty Environment)	N/A	4,000,000 particles / ft ³ @ 5% coincidence loss. 0.2 µm- 25µm



Test	Method	Same Day	1 Day	2 Day	3 Day	4 Day	1 Week	2 Week
TVOC (EPA TO-15 + Library + TVOC Calculation)	TO-15 mod.	N/A	CALL	CALL	CALL	CALL	CALL	CALL
Carbon Monoxide	CMS Method	N/A	CALL	CALL	CALL	CALL	CALL	CALL
New Rug Odor 4-phenyl-cyclohexene (4-PCH)	NIOSH 1501M	N/A	CALL	CALL	CALL	CALL	CALL	CALL
Formaldehyde	NIOSH 2016	N/A	CALL	CALL	CALL	CALL	CALL	CALL
PM-10	EPA IP10A	N/A	CALL	CALL	CALL	CALL	CALL	CALL
Sampling Media/Extras	Product ID	Notes/Price						
TVOC – TO-15 Canister	87IH064 (6L 4-hr) 87IH062 (6L 8-hr) 87IH156 (1.4L 4-hr) 87IH158 (1.4L 8-hr)	Free with analysis. Shipping charges apply.						
Carbon Monoxide – TO-15 Canister	87IH064 (6L 4-hr) 87IH062 (6L 8-hr) 87IH156 (1.4L 4-hr) 87IH158 (1.4L 8-hr)	Free with analysis. Shipping charges apply.						
Carbon Monoxide- Alternate	87RD013- Daily 87R5013- Weekly 8703701- Purchase	TSI-IAQ Calc 7545 Rental or Purchase Fees Apply						
4-phenylcyclohexene (4-PCH, New Rug Odor) – Sorbent Tube and Personal Sampling Pump	87IH028- Tube 87IH005- Pump Rental	Coconut-Shell Charcoal Tube Media and pump rental free with analysis. Shipping charges apply.						
Formaldehyde – Sorbent Tube and Personal Sampling Pump	87IH030- Tube 87IH006- Pump Rental	DNPH-Treated Silica Gel Tube Media and pump rental free with analysis. Shipping charges apply.						
Formaldehyde – Passive Sampler (Badge)	87IH034	DNPH-Treated Passive Sampler (Badge) Badge Fees Apply						
PM-10 Particulate – Filter and Pump Rental	87IH091- Filter 87IH090- Daily 87IH103- Weekly	37mm Preweighed 2.0 um PFTE Filter Filter Fees Apply Pump Rental: Daily / Weekly Rental Fees Apply						
PM-10 Particulate – Alternate	87RD012- Daily 87R5012- Weekly 8710001- Purchase	Lighthouse 3016 IAQ Rental or Purchase Fees Apply						

