

Sampling Solutions for Green Building/IEQ Testing

Introduction

Green buildings have a minimal impact on the environment and are healthy for building occupants. A key environmental category for green building certification is indoor environmental quality (IEQ). IEQ includes moisture control, contaminant control, occupant comfort, and ventilation. IEQ studies are frequently done for formaldehyde, volatile organic compounds (VOCs), carbon monoxide, particulates, lighting, and thermal comfort.



SKC offers solutions for active and passive air sampling and direct-reading monitoring for green building/IEQ testing. SKC active samplers require an air sample pump to collect hazardous gases, vapours, and particulates in air; passive samplers collect hazardous vapours by diffusion without the use of an air sample pump.

SKC Sampling Solutions

For over 50 years, SKC has led the research, design, and manufacture of quality sampling equipment and media to aid health and safety professionals in the evaluation of occupational and environmental hazards.

SKC method-based sampling solutions for green building/IEQ testing include air sample pumps, active and passive samplers, filters, sorbent tubes and innovative portable instruments following agency methods and established protocols.

Air Sample Pumps



Samplers



Sampling Media



Portable Instruments



Sample Collection

Active Air Sampling Solutions

Target Compound	Select Methods*	SKC Sample Collection Media and Part No.	SKC Sample Pump and Part No.	Notes
Formaldehyde	EPA IP-6	Sorbent tube 226-119 or 226-120	Pocket Pump TOUCH 220-1000TC	226-120 is used in the presence of ozone.
Mould	See SKC Sampling Solutions for Mould and Other Bioaerosols, SKC Publication 1847			
PM10 or PM2.5	EPA IP-10A	PTFE filter 225-1709 with Personal Environmental Monitor (PEM) 761 Series . Flow rate determines pumps recommended. See <i>below</i> :	-	Single stage impactor. Choose model for desired PM size and flow rate.
		2 or 4 L/min PEM	AirChek TOUCH 220-5000TC	
		10 L/min PEM	Leland Legacy 100-3002	
	EPA IP-10A equivalent samplers	PTFE filter 225-1709 or quartz filter 225-1822 with Personal Modular Impactor (PMI) 225-350 or 225-352	AirChek TOUCH 220-5000TC	Single-stage impactor with a designated flow rate of 3 L/min. Choose model for desired PM size. <i>Requires 225-355 impaction substrates</i>
	EPA IP-10A equivalent samplers	PTFE filter 225-1747 or quartz filter 225-1823 with IMPACT Sampler 225-390 or 225-392	Leland Legacy 100-3002	Single-stage impactor with a designated flow rate of 10 L/min. Choose model for desired PM size. <i>Requires 225-395 impaction substrates</i>
Polychlorinated biphenyls (PCBs)	ASTM D4861	Low-volume PUF Tubes 226-124	Leland Legacy 100-3002	Sample times up to 24 hours
VOCs	EPA TO-17A	Thermal desorption tube 226-300 Series	Pocket Pump TOUCH 220-1000TC	Coordinate with lab prior to sampling to confirm requirements/logistics.

* Other methods may apply. SKC recommends those listed.

Passive Air Sampling Solutions

Target Compound	Select Methods* / SKC Validation	SKC Sample Collection Media/Sampler and Part No.	Notes
Formaldehyde	EPA IP-6C , OSHA 1007 /Research Reports 1608 and 1661	UME ^x 100 500-100	HPLC analysis
Organic vapours	EPA TO-17 /Research Report 1812	ULTRA 690 Series	Ideal alternative to canisters

* Other methods may apply. SKC recommends those listed.

Direct Reading Instruments

For monitoring/measuring	SKC Sample Collection Media/Sampler and Part No.	Notes
Multiple chemical parameters	HAZ-SCANNER IEMS	Measures up to 14 indoor parameters
Particulate Matter	EPAM 5000	Filter option for lab analysis