

# 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.



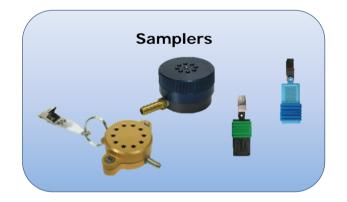
SKC offers solutions for active and passive air sampling and direct-reading monitoring for green building/IEQ testing. SKC active samplers require an air sample pump to collect hazardous gases, vapours, and particulates in air; passive samplers collect hazardous vapours by diffusion without the use of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

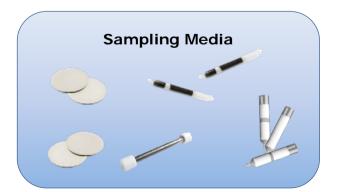
#### **SKC Sampling Solutions**

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.









## **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 <u>226-119</u> or <u>226-120</u>	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 below:	-	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	<u>Leland Legacy</u> 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. Requires 225-355 impaction substrates	
	EPA IP-10A equivalent samplers	PTFE filter 225-1747 or quartz filter 225-1823 with IMPACT Sampler 225-390 or 225-392	<u>Leland Legacy</u> 100-3002	Single-stage impactor with a designated flow rate of 10 L/min. Choose model for desired PM size. Requires 225-395 impaction substrates	
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.	

<sup>\*</sup> 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 <sup>x</sup> 100 <u>500-100</u>	HPLC analysis
Organic vapours	EPA TO-17/Research Report 1812	ULTRA <u>690 Series</u>	Ideal alternative to canisters

<sup>\*</sup> 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	