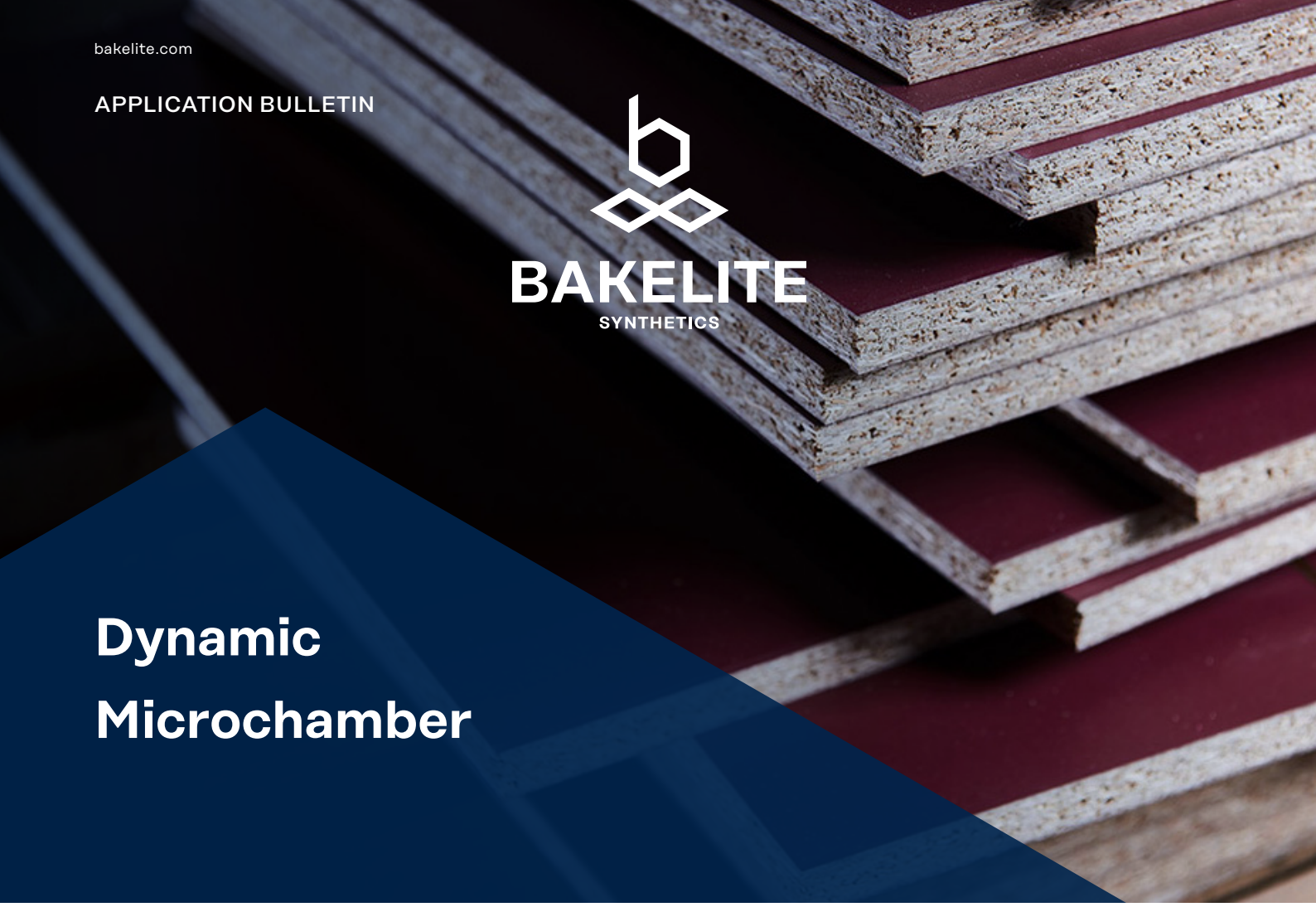
APPLICATION BULLETIN

BAKELITE
SYNTHETICS



Dynamic Microchamber

Accuracy, Speed, Ease-of-Use

The Dynamic Microchamber (DMC) is the standard for small scale formaldehyde emissions tests for composite panel manufacturers in the United States and Canada. Used by the majority of members of the Composite Panel Association, the DMC has been sold to manufacturers on 4 continents since its development.

Approved by the United States Environmental Protection Agency, the DMC has 0.9769 R-squared correlation to the Large-Scale Chamber test.

Panel producers like the DMC because it's fast. After conditioning, samples can be tested and produce reliable results within just 15 minutes and it can perform 13 tests in less than 4 hours. The DMC can provide the fastest results compared to other EPA-approved test methods.

Not only is it fast, the DMC is easy to use. With full computer integration, the DMC software can produce test results with just a few clicks of a mouse. This means reports can be generated efficiently and technicians can be trained quickly, providing capable support for quality managers.

In addition to the standard emissions test, the DMC performs an equilibrium test, a mass transfer test, and the ASTM 6007-14 Small Chamber Test. These tests can provide a wealth of information to technical personnel trying to optimize the manufacturing process to reduce emissions, resin costs, or press times.

Technical Support, Parts and Service

To quickly and easily purchase hardware, consumables and parts; to schedule technical service and training; or to obtain a quote for a new DMC, visit **bakelite.com.**

Product Specifications

Testing Capabilities

- ASTM D-6007 (14) - Standard Test Method ... Using a Small-Scale Chamber
- Cs Steady State Emissions Test - Gas Analyzer
- Ceq Equilibrium Emissions Test - Gas Analyzer

Testing Materials

- Particleboard
- Medium Density Fiberboard (MDF), thin MDF
- Door Core
- Hardwood Plywood (Veneer Core or Composite Core)

Sample Size (expected)

3 x 15" x 7.875" (3 x 381 mm x 200 mm)

Chamber

Internal Dimensions (W x H x L)	7.97" x 13.75" x 24.53" (20.24 cm x 34.93 cm x 62.31 cm)		
Testing Volume	2750 m^3 (0.045 m^3)		
Material of Construction	Stainless Steel (304)		
Ventilation	0-20 sL/min		
Permissible Temperature	77° F ± 5 (25° C ± 2.8)		
Permissible Relative Humidity	50% ± 4		
Air Circulation	49 ft3/min (83 m^3/h)		
Air Changes	> 3 ACH per test		
External Dimensions	Length: 34.6“ (87.9 cm)	Width: 16.8” (42.7 cm)	Height: 16.4“ (41.7 cm)

Testing Parameters – Gas Analyzer

Sensor Type	Electrochemical
Sample Time	15 min/sample
Calibration Time	30 minutes to 2 hours
Accuracy	0.005 ppm
Resolution	0.0001 ppm
Method of control/reporting	Computer-integrated

Interferences (amount of gas required to reflect 0.01 ppm change)

Gas	PMM	Gas	PMM	Gas	PPM
H2	>100	Isopropanol	10	HCL	0.35
Acetone	>10	CH3OH	6.3	NO2*	0.35
Methyl ethyl ketone	>10	NO	5	Acetaldehyde	0.17
Phenol	>10	NH3	3	CI2*	0.07
CO	56	Glutaraldehyde	2	H2S	0.03
n-butanol	32	Propionaldehyde	1.6	SO2	0.3
n-propanol	20	Ethanol	1.3	*Negative interference	

Requirements

Power	120 VAC, 50-60 Hz (2000 VA UPS Recommended)
Operating System	Windows XP® or newer
Background formaldehyde	<0.02 ppm

Next Generation Synthetics

Learn more about the vision, products and history of bakelite on our website

bakelite.com