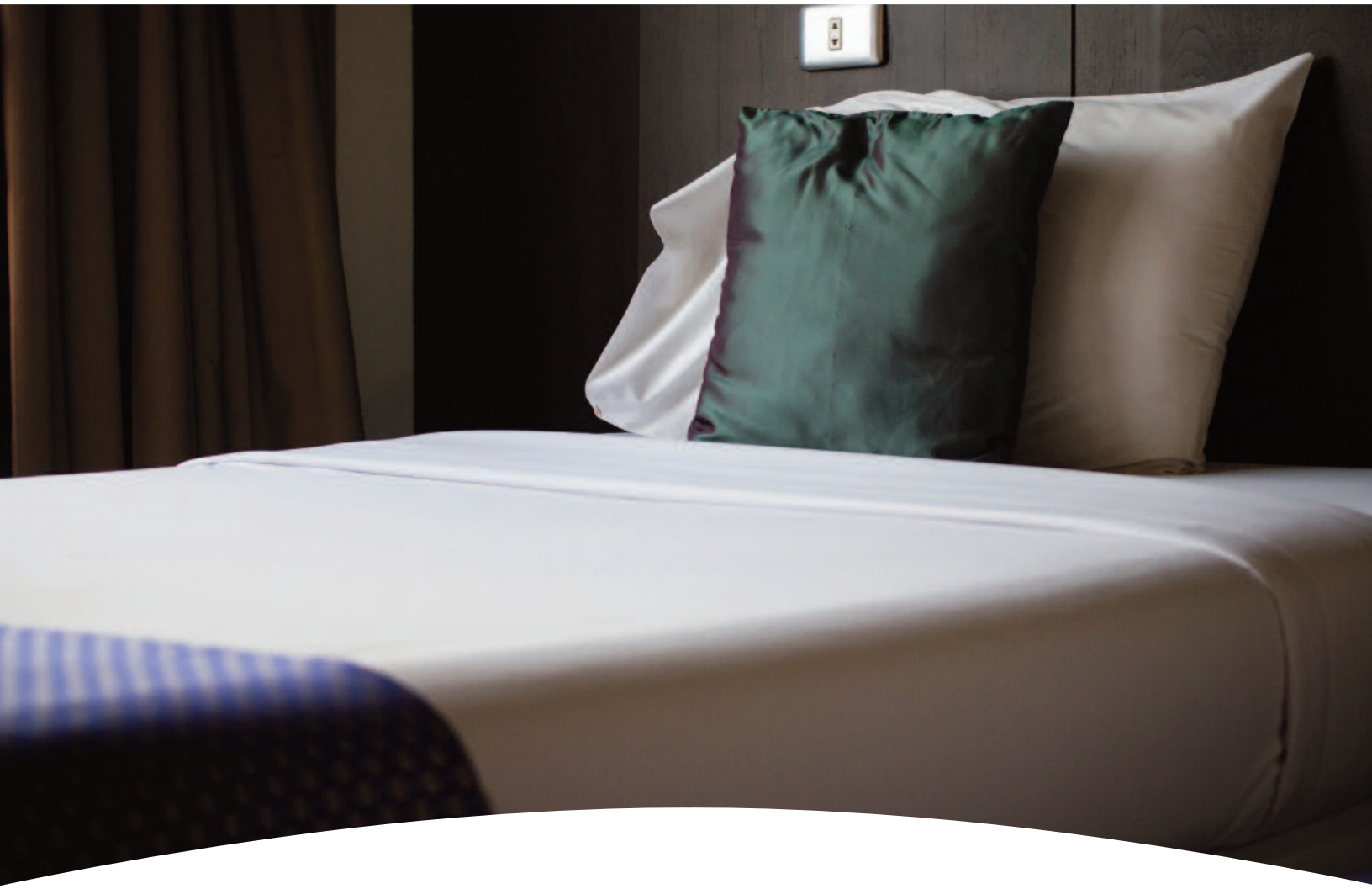
Flexible Foam Additives

Honeywell



Honeywell is developing additives for slabstock and molded flexible foam that can reduce density and exotherm while retaining other desired physical properties

"Honeywell additives can reduce density in conventional TDI-based slabstock foam 8-10% and at the lowest densities can reduce exotherm by 20%."

-John D. McNeill,
Flexible Foam Consultant

Honeywell Additives are a Cost-Effective Solution for Slabstock

Nonflammable† Honeywell additives reduce density and exotherm while maintaining key properties.

- Density reduction of 10% means you use less material for the same result
- Lower viscosity results in improved foam processability
- Vary foam density by adjusting the additive dosing (no reformulating)
- Not expected to contribute to TVOC when tested using ISO 16000 - 6

Study Results:
MDI Viscoelastic Foam

Available Now

Conventional Slabstock Additive Development Trial Results

Trial 1:
Higher Density (baseline 1.72pcf)

- Honeywell additives lowered density 9-10%
- Minimal changes to physical properties noted in table below.

Trial 2:
Lower Density (baseline 1.37pcf)

- Honeywell additives lowered density approximately 8%
- Peak exotherm reduced 20% from 236°F (113°C) baseline
- Compression set changes (50% at 70°C):
  - Additive 1: no change
  - Additive 2: improved 13% from baseline 5.55

Trial 1: Higher Density (baseline 1.72pcf)

Property	Control	Additive 1	Additive 2	Conventional Foam
Average Density	1.7	1.54	1.53	
Density reduction		-9%	-10%	
90% Compression Set	2.6	5.2	5.8	<6.0
IFD 25% (N)	183	177	182	>162
IFD 65% (N)	323	297	314	>275
Comfort Factor (65/25)	1.77	1.68	1.72	~1.7

Interested in Molded Foam?

Study Results: Molded Foam

Study of additives showed:

- Density reduction of 12-15%
- Other physical properties remained unchanged or better

First commercial adoption in 2014

Flexible Molded Foam Additive Development

Honeywell additives showed 12-15% density reduction while maintaining key physical properties.

Enhancing technology to improve cost and performance:

- Achieved reduction in free rise density of 12-15%, depending on the size of the block, additive dosing and the baseline density
- With further additive research, other physical properties were *maintained or improved:* 50% compression set, IFD25, IFD65, sag, tensile strength, elongation
- Customer adoption started July 2014

Ask us for detailed results.

Interested in learning more?

Call **1-800-631-8138** or visit **www.honeywell-blowingagents.com** today to discuss your slabstock foam requirements, and to start a trial with Honeywell additives.

† ASTM E-681

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