

SOLVAY



alve-one®

Sustainable foaming solutions for the
BUILDING & CONSTRUCTION
INDUSTRY



Sustainable foaming solutions for the BUILDING & CONSTRUCTION INDUSTRY



Alve-One® foaming agent solutions, bringing more value for your construction foamed applications



Matching the technical performances of the market reference with a cost competitive solution



Enhancing sustainability performance in construction products with a compliant and safe foaming agent



Simplifying logistics through a safe-to-use foaming agent, delivering foams containing no odor



Improving competitiveness by optimizing formulations or manufacture processes (if desired)

Alve-One® characteristics

100%
non-toxic

Chemical composition

Mineral based, endothermic decomposition

Physical form

Powder, Masterbatch*

Resins

Elastomers, linear & crosslinked Polyolefins, rigid & flexible PVC, Rubber

Granulometry range

Adapted to your process:
From 5 μm to 50 μm

Processing temperature range

Adapted to your process:
From 140 to 210 °C

Packaging

Supporting your needs



*Available on demand depending on your region.
EU made
Made in Italy

Lightweight without compromising on sustainability

Alve-One® solutions are based exclusively on **safe raw materials combinations**, 100% compliant with REACH regulations, and deliver efficient foaming performances.

**Expansion ratio
(Volumetrically)**

Up to 5 times

**Foam Density
(g/cm³)**

As low as 0,25

■ Alve-One® Solutions

■ Market Reference

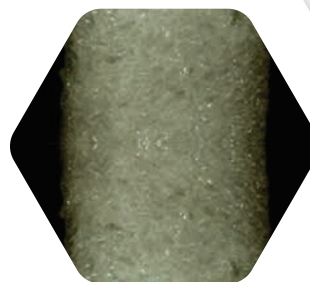
Performance comparisson between ADCA & Alve-One® solutions in a PVC plastisol foam

Alve-One® solutions found to be as efficient as the market reference for density reduction & expansion ratio.

Similar cellular structures and a whiter color is obtained for the foam manufactured with Alve-One® without additional additives' use.



Foamed with ADCA



Foamed with Alve-One® solutions

PVC plastisol foams' structures

An easy-to-use foaming solution

Easily adopted, simplified plastisol formulation that maintain foaming performance

Raw material	Name	Formulations (%) of PVC plastisol foamed with	
		ADCA	Alve-One®
PVC resin	PVC K-value 67	33,0	32,2
Plasticizer	DINP	26,2	25,7
Filler	CaCO3	39,5	39,9
Kicker I Activator	ZnO + Zn stearate	0,4	
Blowing Agent	ADCA	0,9	
	Alve-One®		2,5*
Objective	Expansion ratio	3,6	3,5
	Cellular structure	Homogeneous	Homogeneous

*Usage of Alve-One® can be optimized, resulting in a better foaming performance and cost-competitive solution compared to the market reference

Comparison of standard plastisol's formulations foamed with ADCA and Alve-One® foaming solutions

Thanks to Solvay technical support, customer will benefit of a quicker formulation adjustment allowing to extract the maximum value from the blowing agent system.

A ready-to-use and safe foam

Foams made with Alve-One® do not emit any ammonia smell and help reducing quantities of VOC (Volatile Organic Compounds). Faster time-to-market, lower logistics cost and higher adoptions from end-users are key benefits for your applications.

Foaming Agent	Weight Loss @ 100 °C	Weight Loss @ 150 °C	Weight Loss @ 200 °C
ADCA	0%	0,17%	0,82%
Alve-One®	0%	0,03%	0,04%

Analysis of amount of volatiles released by foams produced with ADCA and Alve-One® solutions, measured by the weight loss at 3 different temperatures.

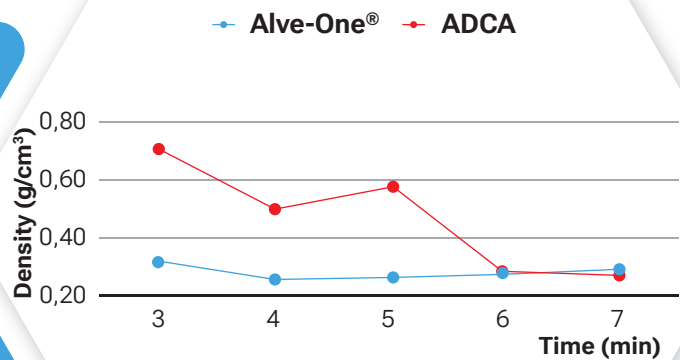
Foams produced with Alve-One® solutions do not emit VOCs, a critical aspect:

- In the production of wallpaper, promoting an improved home IAQ*.
- in the flooring** production.

*IAQ: Interior Air Quality
ISO 12219

**ISO 16000

With a more efficient kinetics, including Alve-One® foaming agents in your products can allow shorter cycle times leading to energy savings and higher production outputs.

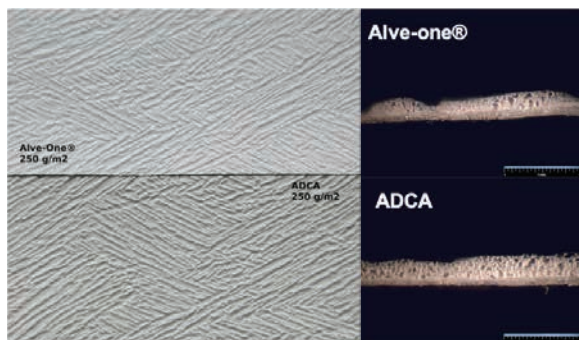


Evolution of crosslinked EVA foams' density during the manufacturing process when using ADCA and Alve-One® products.



Whiter, healthier and voc-free results

The use of Alve-One® in wallpaper allows for whiter and less thick results than those formulated with ADCA.

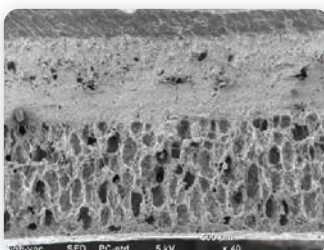


	ADCA	Alve-One®
Thickness (mm)	0.39	0.36
Density	0.65	0.66
Whitess		
L*	96	96
a*	-0.3	0.3
b*	-0.7	-4.1

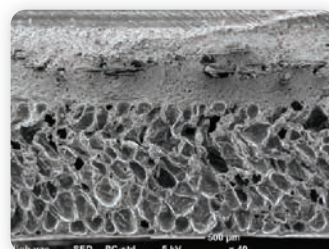
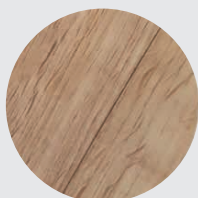
In PVC flooring solutions Alve-One® has a lower density without compromising the quality of the final product

	Thickness	Density
Alve-One®	2,81	0,93
ADCA	2,49	1,09

ADCA



Alve-One®



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