Additives for
Vinyl Resilient Flooring

DOW
®

# Innovative solutions for improved LVT manufacturing and product performance

Consumers, retailers and building contractors continue to seek new solutions to improve the performance, durability, and value of luxury vinyl flooring, a growing market commonly referred to as "luxury vinyl tiles" (LVT). LVT offerings need to be easy to install, low-maintenance, durable, cost-effective and aesthetically pleasing. SURECEL™ and PARALOID™ Processing Aids and Impact Modifiers from Dow offer innovative yet cost-effective solutions across all LVT types with targeted offerings for each layer in the composite LVT structure.

Foam Core LVT Solutions

PARALOID™ and SURECEL™ Processing Aids can enable key performance attributes for foamed LVT layers. Solutions from Dow offer the ultimate in melt strength for an improved foaming process, yielding lower density, higher expansion and very fine cell structure. Additional benefits include:

– Prevent cell rupture/collapse
– Uniform cell structure
– Viscosity/elastic balance

Highly Filled PVC Compound	Without Processing Aids	With Processing Aids
Density (g/cc)	1.25	0.55
Expansion (%)	173	878

Without Processing Aids

With Processing Aids

Without Processing Aids

With Processing Aids
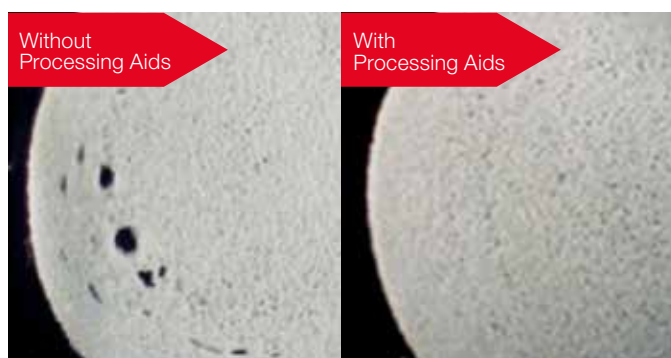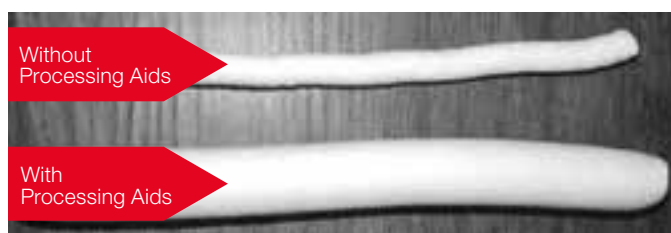
Solid Core & Flexible LVT Solutions

Compounds for PVC-based Solid Core and Flexible LVT layers require fast fusion times and high melt strength for optimal processing, including extrusion and calendering. PARALOID™ Processing Aids are high molecular weight acrylic polymers specifically designed to meet these needs. Additionally, these additives help achieve the necessary processing rheology.

— without Acrylic Procession Aid
— with Acrylic Procession Aid
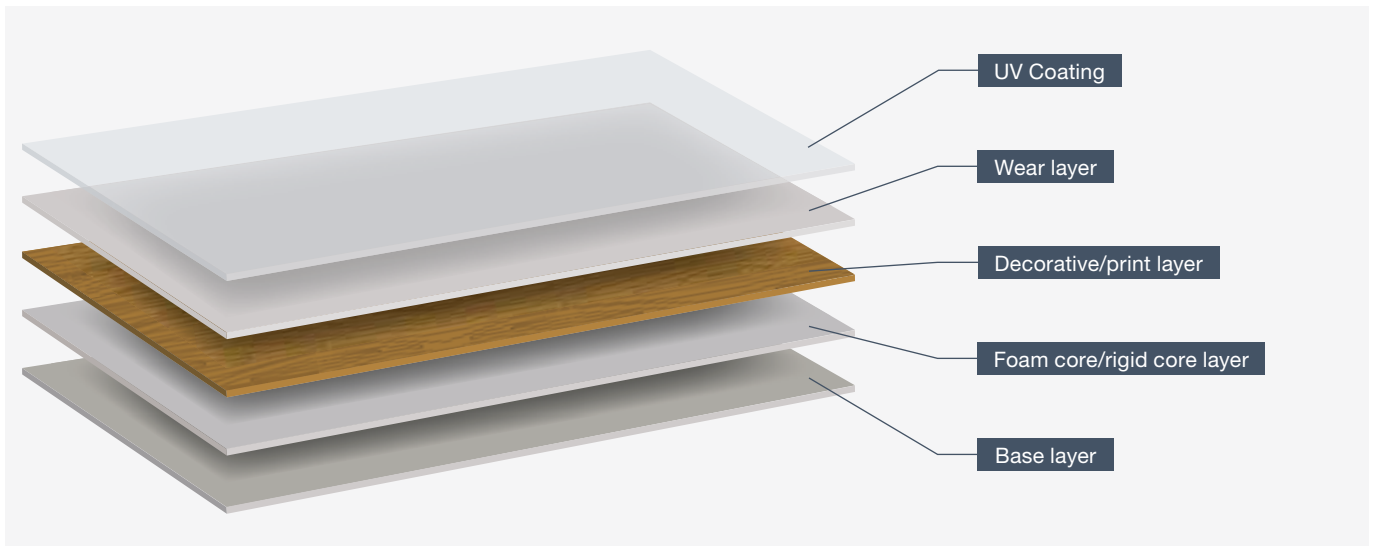

Without processing aids   With processing aids
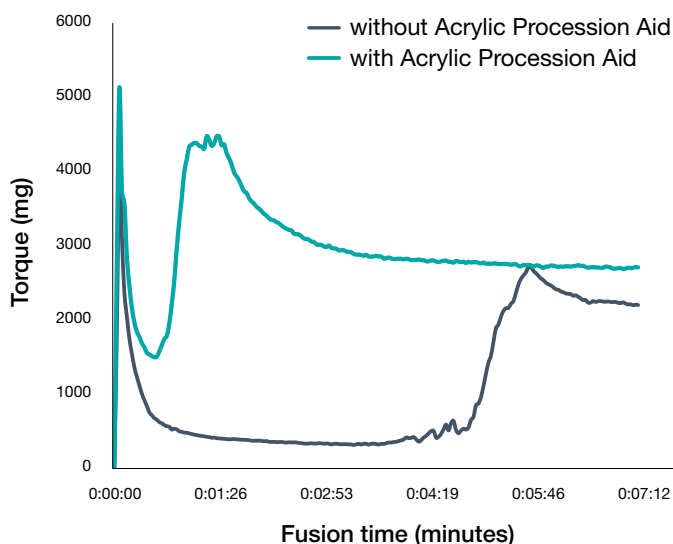
General Performance & Processing Enhancement

Impact strength is critical for LVT, both during installation and for long-term durability. PARALOID™ Impact Modifiers can enable improved impact strength while maintaining structural integrity.

Additionally, PARALOID™ K-175 Processing Aid from Dow offers excellent lubrication, leading to improved metal release, better run time, and minimal plate-out.

LVT Composite Structure

UV Coating
Wear layer
Decorative/print layer
Foam core/rigid core layer
Base layer

Recommended Grades by LVT Layer

LVT Layer	Base Layer	Foam Core Layer	Solid Core/ Flexible Layer	Print Layer	Wear Layer
Processing Aids					
PARALOID™ K-120ND				●	●
PARALOID™ K-125	●		●	●	●
PARALOID™ K-175				●	●
PARALOID™ K-400	●		●		
PARALOID™ K-445		●			
SURECEL™ 467		●			
Impact Modifiers					
PARALOID™ KM-334			●	●	
PARALOID™ KM-5000	●		●	●	

These are typical properties, not to be construed as specifications.

Picture credits

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Note: except otherwise expressly specified, the graph and tables presented in this document originate from internal studies conducted by Dow in 2019.

Contact us:

www.dow.com

Americas	**Asia Pacific**	**Europe, Middle East & Africa**
Khalid Ali	Chris Wu	Elisenda Falcó
Market Manager	Market Manager	Market Manager
Dow Plastics Additives	Dow Plastics Additives	Dow Plastics Additives
E: mkali@dow.com	E: XWu@dow.com	E: Elisenda.Falco@dow.com
P: +1 (610) 244-7787	P: +86 2038130659	P: +34 696 991 933