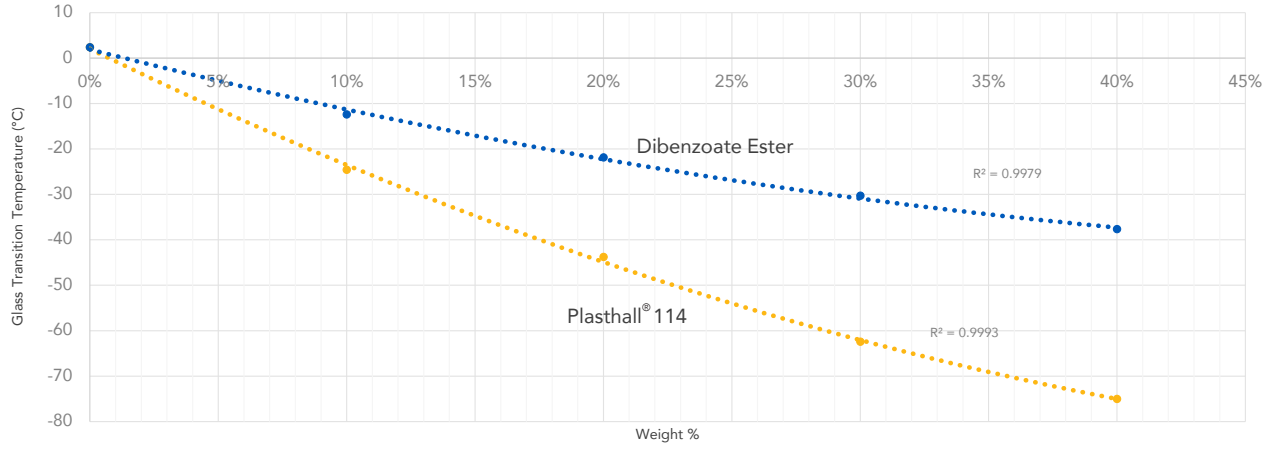
Plasthall® 114
Plasticizer for VAE

HALLSTAR
INDUSTRIAL SOLUTIONS

Plasthall® 114 is an aliphatic ester plasticizer used to modify high-polarity thermoplastics and elastomers. This plasticizer has an extremely high efficiency rate in a variety of vinyl-acetate ethylene (VAE) and acrylic polymer systems compared with traditional dibenzoate plasticizers, and can achieve -18°C temperature grade at half the plasticizer loading, improving long term durability.

In addition, Plasthall® 114 can be used in a range of fully formulated adhesive and sealant applications and can be formulated to meet ASTM C-834 sealant standards at lower plasticizer loading. This capability improves long term durability by reducing the loading of highly extractable dibenzoate plasticizers.

Tg Suppression of Plasticized VAE Polymer



% Plasticizer on Wet Polymer					
%	0%	10%	20%	30%	40%
Plasthall® 114 (Tg)	2.38	-24.60	-43.79	-62.45	-75.02
Dibenzoate Ester Control (Tg)	2.38	-12.42	-21.89	-30.31	-37.67

Plasthall® 114 Physical Properties

Active Ingredient	Plasthall® 114
Appearance	Clear
Color (APHA)	80.00
Acid Value (mg KOH/g)	0.60
Specific Gravity @ 25°C	0.98
Refractive Gravity @ 25°C	1.45
Moisture, %	0.06
Hydroxyl Value (mg KOH/G)	15.00
Saponification Value (mg KOH/g)	243.00

Latex Sealant Formulation using Hallstar's Plasthall® 114 (ASTM C-834/-18°C)

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Raw Material	Weight (%)
VINNAPAS EF575 Vinyl Acetate-Ethylene (VAE) Copolymer	35.00
Nonionic Wetting Agent	1.06
Polyacid Dispersant	1.06
Plasthall® 114 (plasticizer)	5.25
Propylene Glycol	0.84
Defoamer	0.17
Cellulose Rheology Modifier	0.70
Calcium Carbonate	50.21
Titanium Dioxide	1.05
Water	2.82
Ammonia	0.08
White Mineral Oil	1.66
Stabilizer	0.10
TOTAL	100.00

Physical Properties	
Solids (weight %)	79.20
Viscosity (mPa.s)	530,000
Density (lb/gal)	12.60
pH	7.80
Pigment to Binder Ratio	2.70
PVC	53.90
P: (B + PI)	2.10
Plasticizer on Polymer Solids	27.30

ASTM C-834 Test Method	ASTM	Specification	Plasthall® 114
Extrudability	C731	2.00 Min	2.50
Artificial Weathering	C732	Pass	Pass
Volume Shrinkage	C1241	30% Max	17.00
Low Temperature Flexibility	C734	No Cracking	-18°C
Extension-Recovery and Adhesion	C736	75% Min	98.00
Slump	D2202	0.15 Max	0.03
Stain Index	D2203	3.00 Max	1.00
Tack-Free Time	D2377	Adhesion to Strip	Pass

REQUEST A SAMPLE
https://www.hallstarindustrial.com/product/plasthall-114

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