

# A-C® Performance Polymers for APAO Hot Melt Adhesives

Honeywell A-C® additives are used in amorphous poly-alpha-olefin (APAO) hot melt adhesives for their ability to influence many performance-related properties, including heat resistance, wetting, PVC and PP foil adhesion and set time.



## Increased Wetting and Adhesion

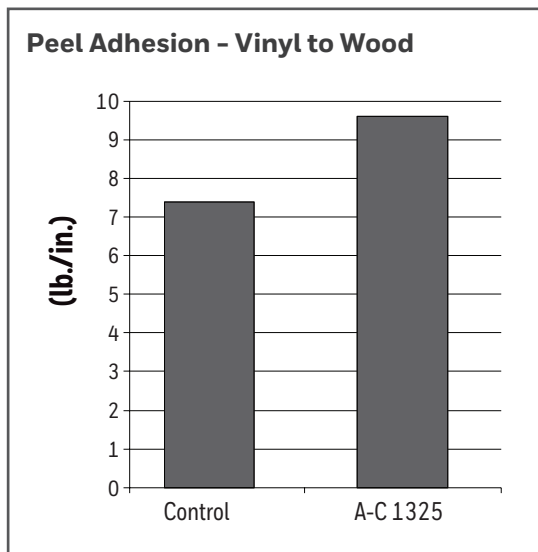
Adding A-C polymers to APAO hot melt adhesives lowers overall viscosity and improves the wetting of the substrate. These polymers also facilitate dispensing through viscosity adjustment and reduced stringing of the APAO melt. A-C maleic anhydride grafted polyolefins (MAPOs) increase adhesion to many challenging substrates. MAPOs are particularly useful in woodworking adhesives, providing long-lasting adhesion to PP or PVC foils.

## Increased Heat Resistance

Adhesive performance at elevated temperatures is of critical importance to the quality of assembled parts, whether it is a decorative foil on wood or an assembled cardboard container. The spider graph on the left shows significant increases in shear and peel adhesion failure temperatures when adding A-C functionalized polymers to APAO hot melt adhesives.

## Optimized Set Time

For applications requiring specific set times, adding A-C performance polymers to APAO hot melts optimizes the set time and helps build green strength rapidly, as illustrated by the DMA measurement in the chart.



Test Composition (%)	Control	With A-C
A-C MAPE or MAPP	0	7
Aromatic modified C5 tackifier	26	24
A-C 820 APAO polymer	74	69

A-C Product Type		Benefits	Drop Point (°C)	Hardness (dmm)	SAP mg KOH/g	Melt Viscosity (°C)
A-C 1089	Homopolymer PE	Heat resistance Improved wetting	146	<0.5	-	45 (190°C)
A-C 1660			150	0.5	-	60 (190°C)
A-C 596P	Maleated PP	Heat resistance Adhesion to wood, PP, PVC Improved wetting	142	<0.5	45	300 (190°C)
A-C 1325P			153	<0.5	18	1,600 (190°C)

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1763 PA | August 2017  
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