ARCEL® Resin Design Study
Packaging Solution for Cabinets

ARCEL resin vs. Molded Pulp or Corrugate Corner Pads
ARCEL resin has been used by cabinet manufacturers to reduce the number of packaging components. ARCEL resin is less abrasive than other packaging materials such as molded pulp and corrugate, allowing some cabinet manufacturers to eliminate the use of a polyethylene (PE) microfoam wrap between the cabinets and the cushions when using ARCEL resin cushions. The simplification of the total packaging solution has allowed cabinet manufacturers to realize reductions in labor time associated with packaging a cabinet.

The following photographs show the difference between packaging solutions using ARCEL resin and packaging solutions using molded pulp for the same cabinets. Fabricated PE cushions were also considered for some applications shown, but the ARCEL resin cushions were specified due to better structural stability.

ARCEL resin corner cushions
Molded pulp corner cushions with PE microfoam
ARCEL resin vs. Fabricated Polyethylene
A molded solution would typically have lower labor costs than a fabricated solution. As volumes increase, the tooling costs required for molding ARCEL resin would be offset by the reduced labor costs for a fabricated PE cushion.

Although PE is durable, higher density PE foam would be needed to get the same compressive strength/dimensional stability performance as ~1.5pcf ARCEL resin. A solution using 1.7 pcf PE foam was trialed, but it failed because the weight of the cabinet caused the cushion to flatten.

Criteria for Success

Cost
- Price per part target for cushions
- Tooling cost was not a driver due to long project life cycles
- In some cases the corner pads may have been more expensive with ARCEL resin, but labor time/cost savings offset the higher part cost.

Protection
- Match the protective performance of existing pack
- ARCEL resin packaging solutions for cabinets have passed various industry standard protective packaging performance tests such as ISTA 1A, ISTA 2A, and ISTA 2C requirements.

Tack Time (Operational Efficiency)
- Improving operational efficiency to allow assembly of more packs per shift.

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