## Storage & Handling Conditions for Polypropylene Unlined Closures



Storage conditions such as time, temperature, and humidity can have an effect on unlined polypropylene (PP) closures. The exposure and age can also affect the shrinkage and impact properties of the closure.



**Storage Time –** Minimize the storage time of unlined closures. Maintain a strict first-in first-out inventory. Many end users will reapprove closures after two or three years of storage.



**Storage Temperature –** Elevated storage temperatures allow unlined polypropylene closures to further shrink. Harsh conditions can actually cause severe distortion. The degree of distortion and shrinkage depends on the closure design and storage conditions. Higher storage temperatures also accelerate the aging process of the closure. Provide moderate storage temperatures to ensure consistent closure dimensions and properties. Polypropylene unlined closures can withstand temperatures of 110°F for brief periods.



**Storage Humidity –** Although humidity itself will not degrade the unlined closure, a humid environment can have a direct impact on the secondary packaging, such as cardboard cartons. Use of stretch wrapping and/or controlling warehouse conditions will help alleviate secondary packaging problems.



**Surface Contamination –** Keep Polypropylene unlined closures as clean as possible; it is best to store in original sealed cartons.

Please note that the above conditions apply to unlined closures. For lined closures, please refer to the Liner Manufactures Storage and Handling Conditions.

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