

Storage of Thermoset Materials

The proper storage of thermoset materials is key to maintaining their processability. Many thermoset materials have a limited **theoretical shelf life** as determined by **standardized laboratory measurements**. While shelf life is affected by ambient temperature, it is equally dependent on the latitude and parameters of the molding process coupled with the tool and part design. The changes in flow characteristics that occur during the shelf life of the material do **NOT** occur suddenly. They occur gradually over a period of time and therefore affect each application differently. The following table lists the **theoretical shelf life** of PLENCO's thermoset materials when stored in a dry area:

<u>Material</u>	<u>Shelf Life</u>	<u>Storage Temperature</u>
Single Stage Phenolic	6 months	Less than 86°F (30°C)
Two Stage Phenolic	2 years	Less than 86°F (30°C)
Melamine-Phenolic	9 months	Less than 86°F (30°C)
Granular Polyester	2 years	Less than 86°F (30°C)
Black BMC	1 month	Less than 70°F (21°C)
Colored BMC	2 months	Less than 70°F (21°C)

The ***theoretical shelf life*** of **Single Stage Phenolic** and **Melamine-Phenolic** materials may be increased by storing in a cold room [Less than 70°F (21°C)]. Likewise, the ***theoretical shelf life*** of **Two Stage Phenolic** material, and **Granular Polyester** material, may be longer than two years when properly stored.

When improperly stored, phenolic, melamine-phenolic, and granular polyester materials may gain or lose moisture, which will affect their moldability. Improperly stored BMC materials may lose volatiles causing them to become un-moldable. The following guidelines are recommended to ensure proper storage of PLENCO thermoset materials.

- 1) PLENCO thermoset materials should always be stored in their unopened original containers until ready for use.
 - If the original container is opened but all the material is not used, the container should be resealed to help prevent the gain or loss of moisture or the loss of volatiles.
 - If the container is a paper bag, then place it inside a sealable plastic liner.
- 2) PLENCO thermoset materials should always be stored in a clean, dry environment to prevent their increasing in moisture content.
- 3) When PLENCO thermoset materials are stored at temperatures below 70°F (21°C) they should be allowed to warm to at least 70°F (21°C) before attempting to mold. Problems with moldability or preformability can occur when attempting to use them at colder temperatures.

NOTE: The colder the temperature the material is stored at, the longer it will take for all the material in the container(s) to reach 70°F (21°C).

FOR EXAMPLE: If the material is stored at or below freezing, it can take several days for all of it to reach 70°F (21°C).

- 4) Preforms made from PLENCO thermoset materials should be stored in a sealed container until needed for molding. If possible, the container should have a sealable plastic liner which will help prevent the preforms from gaining or losing moisture.