# How to extend pot life

**Epoxies and Polyurethanes generate heat during the reaction. Since these materials are very poor in conducting heat while in liquid form this energy is retained within the mass of mixed product. This retained energy intern will accelerate the reaction further resulting in the generation of even more heat. The more reactive the system the more heat it will generate during the curing process.**

Hardeners, catalysts and similar components in a given formulation are designed to yield a certain pot life at a specified temperature for a specified mass of material. The best way to extend pot life is to control the amount of energy (heat) that is available for the curing process.

**Trade Off:** The lower the temperature the higher the viscosity. Pouring and de-airing are more difficult at lower temperatures.

***Two Component Materials (Manual mix):***

1. Reduce the amount of heat generated while mixing the components together.*
2. Reduce the amount mixed at one time.
3. Keep the mix cool.
4. Select a slower hardener.

*** Violent, high speed, high shear type mixing will raise the temperature of the mix.**

***Two Component Materials (Machine mix):***

1. Lower the resin and hardener holding tank temperatures.*
2. Lower the temperatures on heated dispense lines.*
3. Select a slower hardener.
4. Switch to a static mix head.**

*** Lower temperatures will result in higher viscosities and increased back pressures.**

**** Dynamic mix heads usually operate at high rpm which generates heat due to the shearing action. Static mix heads do not have moving parts and do not generate heat while mixing.**

***Single Component Materials:*** The pot life of single component materials is basically the same as the shelf life. This time period can be extended by storing the material at cooler temperatures. The gel time can be slowed by using cooler component parts or moulds in the application.



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