Good Storage and Handling Practices for Rubber & Plastic Products

Over time, rubber and plastic products can undergo changes in physical properties and become unusable due to excessive hardening, softening, cracking, crazing, or other surface degradations. These changes may be the result of one particular factor or a combination of factors, such as the action of oxygen, ozone, light, heat, humidity, oils, water, or other solvents. The detrimental effects of these factors can, however, be minimized by proper storage conditions.

Here are some guidelines that will help give your rubber or plastic product the shelf life longevity that’s expected based upon material type.

TEMPERATURE
The optimum temperature for the storage of rubber products is between 40°F and 80°F. High temperatures do accelerate the deterioration of rubber products, so sources of heat in storage rooms should be arranged such that the temperature of stored items never exceeds 120°F. The effects of low temperatures are not as damaging or permanent as high temperatures, but rubber and plastic articles will become stiffer and care should be taken to avoid distorting them at temperatures below 40°F.

HUMIDITY
The relative humidity in the storage area should be below 75%. Very moist or very dry conditions should be avoided. Where ventilation is necessary, it should be kept to a minimum. Condensation should not be allowed to occur.

LIGHT
Rubber and plastic products should be protected from light, especially sunlight and strong artificial light with high ultraviolet content. Polyethylene bags stored in large cardboard containers and polyethylene-lined craft bags offer good protection against light.

OXYGEN AND OZONE
Oxygen (O2) and Ozone (O3) are very damaging to rubber products, so wherever possible, they should be stored in airtight containers to protect them from circulating air. Ozone is particularly damaging, and causes a "scission" of the carbon backbone polymer chain into smaller chains. Seals and other rubber products should be kept away from ozone-generating equipment such as electric motors, mercury vapor lamps, and high voltage electrical equipment.

DEFORMATION
Rubber & plastic products should be stored in a relaxed state, free from tension, compression, or other deformation since these may lead to cracking or change of shape. Large parts should not be stored on pegs as this may cause severe deterioration. Deformation in plastic products may re-gain their original shape by applying heat directly to product.