

Storing Rubber Motors

(by Bill Henderson, originally published in Tailspin, Newsletter of the bay State Squadron FAC, Sept/Oct. 1993)

There has been a lot of discussion in various newsletters around the world about the best way to store your rubber motors. The traditional way has been to put them into paper envelopes, but this has its problems since brown Kraft paper is acidic in nature and bleached white paper has residual acid and bleaching chemicals in it. These attack the rubber and cause it to become brittle and break easily, usually well below the normal expected breaking turns. Museums have faced this problem in storing artifacts and now use special acid free paper for storage containers, but it is expensive.

A cheaper substitute are the glassine envelopes used by stamp collectors. These have an acid free wax based surface and are excellent for storing rubber motors.

Some people have been using plastic bags, with or without the snap sealing edge. It has come to light that these bags are made from many different materials, some of which, particularly PVC, are as bad for rubber as acid paper. PVC (polyvinylchloride) contains plasticizers to make it flexible and these can leach into the rubber with dire consequences. The best plastic bags to use are those made from either polyethylene or polypropylene, which are, basically, sophisticated waxes that do not affect rubber.

How can you tell the difference when the type of plastic used does not appear on the package? Fortunately, there are a few simple tests, based on the way the plastic burns and on its Specific Gravity, that will allow you to identify the good bags.

When you put a match to a PVC bag it burns with a sooty, yellow flame and has an acrid smell. Polyethylene and polypropylene bags burn with a blue edged flame and smell like burnt wax. (Avoid inhaling the fumes! Ed.) Unfortunately, even the later two are sometimes compounded with other polymers that are not good for rubber storage, but these will not necessarily change the characteristics of the flame.

Since the unmodified polyethylene and polypropylene are lighter than water (S.G. 0.92-0.97), while PVC containing plastics are heavier (S.G. 1.2 and higher), the following method will tell you what you have. Take one of the bags, open it up and fill it completely with water. Now put the full bag, with open end up, into a deep pan of water and pull it to the bottom. If it stays there it is PVC or a modified polyethylene/polypropylene. Do not use it for rubber storage.

If it slowly rises to the surface of the water, it is unmodified polyethylene or polypropylene and is OK to use for rubber storage.