EXTRACT OF AN ARTICLE WRITTEN BY
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The choice of film-friendly containers

The choice of containers therefore requires a clear understanding of the life expectancy objectives, consideration of the macro-environmental (storage vault) conditions, the nature of nitrate-based film material, and whether the container will remain inert and stable during the lifetime of the film element stored inside it. All enclosures used must pass the Photographic Activity Test (PAT), described in ANSI Standard IT9.2.

The tin-coated sheet iron metal raw film stock can has almost universally been used to store film elements in laboratories, vaults and archives, including nitrate-base film materials. The raw film stock was packaged in them by the film manufacturers, hence it was assumed that they were also suitable for storage purposes, which they are not.

When archivists monitored their film collections, they noted that the interior of such cans would often start to rust before the outside! The explanation for this phenomenon is that the outgassing of acid vapors emanating from actively degrading film caused such oxidation. Dr. Karel Brems[1] of film manufacturer Agfa-Gevaert, Mortsel, in Belgium, stated: "Since the deterioration (of triacetate film) is catalysed and auto-catalytic, one should try to prevent the reaction to reach the auto-catalytic point. This means that the released acetic acid should in no way accumulate in the film material. Therefore, we believe that the film material should not be stored in a tightly closed can or plastic bag, but in an open, well ventilated clean area." He concluded, citing the above reference: "This means that using metal cans is a real risk factor in an archive." Considering that nitrate film is also subject to outgassing, the same advise also applies to nitrate film storage.

[1] Dr. Karel Brems, *Vinegar Syndrome Update-The Alternative: Polyester Film Base*, in Image Technology, March 1991, pp. 94-96.