

Abstract Submitted  
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**Thightness Compound Climatic Test -  $Q_C$**  MARIANA CORNELIA BUTNARU, APS — This method determinate the suitability of materials components, finished products and others to stressful conditions like: cold, heat, UV and IR radiations ... others. Generally, the thightness is testing in lab environmental conditions. But some materials, components or finished products are used transported or/and deposited in special climatic conditions. So when we test thightness we must mimic the environmental factors of aging. The samples are same elastomers of general use (used for gaskets). The rubber was studied using IR measurements. We studied the structural changes which appear due to the climatic factors on samples of N50 rubber. The elastomer was cooled and irradiated with UV radiation. Due to cooling a new spectral band at  $1443\text{ cm}^{-1}$  appears, and also the intensity of spectral band from  $1432\text{ cm}^{-1}$  decreases. The most important structural changes, due to the degradation action of the ultraviolet radiations, appear after 10 hours of the action of the aging factor. The rubber was also studied with photoacoustic technique. An important decrease of thermal diffusivity with the number of climatic cycles (aging factor - cold) and the UV irradiations dose was observed for N50 type samples. We assume that a variety of structural changes have been produced. This kind of elastomer is not a resistant one to stressful conditions. The results proved that thightness compound method  $Q_C$ , works, is a very important one and must be applied.

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