



HANNA RUBBER COMPANY

Resources

Understanding Shrinkage in Closed Cell Sponge Materials

Manufacturing Process and Relaxation Time

Our closed cell sponge material is manufactured in large blocks or “buns,” measuring up to 2 1/2” thick depending on the polymer and density. Due to the chemical (blowing agent) expansion process used to create these materials, internal stresses are introduced during manufacturing. To ensure optimum performance and dimensional stability, it is crucial to allow these buns to relax for approximately 3 weeks prior to any further processing.

This relaxation period helps reduce shrinkage.

Skiving and Additional Relaxation Time

Following the initial relaxation period, the buns are skived to achieve the desired thickness. Post-skiving, the sheets require an additional relaxation period of 7-10 days before cutting to their final dimensions.

This additional relaxation period is essential to ensure that any residual stresses from the skiving process are adequately released, thus ensuring the dimensional stability of the material.

Potential for Shrinkage

It is typical for closed cell sponge materials, to exhibit some degree of shrinkage. This is a characteristic of the material and is attributed to the chemical expansion process used during its manufacture.

We assure that this is a normal behavior of the material and not a defect.

Dimensional Tolerances

We maintain a dimensional tolerance of +/-5% on the length and width of our closed cell sponge sheets. This tolerance accounts for any potential shrinkage that may occur and is a standard industry practice.

Accommodating Shrinkage in Fabrication

Understanding that precision is crucial in fabrication, we are committed to working closely with our customers to meet their specific needs. If a customer requires a minimum dimension for the fabrication of finished parts, we are more than willing to produce the sheets in oversized dimensions to accommodate any potential shrinkage, ensuring that the material will meet the required specifications once it has fully stabilized.