The tolerances or specification limits of PUR flexible foams are often the subject of discussion between foam manufacturers and processors or customers. Extensive studies on the distribution of physical properties over the entire slabstock crosssections of PUR flexible foams from various manufacturers, which were carried out in cooperation with renowned raw material suppliers, as well as long-term measurements by the foam manufacturers themselves, provide a clear picture of the tolerances and specification limits.

The studies show in particular that there can be significant variances in the hardness distribution of the different foam families over the entire block cross-section.

The evaluation of all available data requires the following tolerances to ensure the process capability of PUR flexible foam production.

**Polyether Flexible Foams**
- Bulk density: +/- 8%
- Hardness: +/- 18% (minimum tolerance +/- 0.25 kPa)

**Polyester Flexible Foams**
- Bulk density: +/- 10%
- Hardness: +/- 20% (minimum tolerance +/- 0.25 kPa)

The tolerances mentioned above refer to the respective agreed bulk density or the agreed hardness.

The bulk density or hardness is determined as the arithmetic mean of at least three individual values. The individual values are determined on test samples taken from the middle area of the block cross-section of a PUR flexible foam block at the top, middle and bottom.
The measured values are determined according to the following standards:

- **Bulk density** according to DIN EN ISO 845 (kg/m³)
- **Hardness** according to DIN EN ISO 3386-1 (kPa) (compressive stress)
  or DIN EN ISO 2439 Procedure B (N) (indentation hardness)

All members of the association have been consistently applying all quality assurance measures for years.

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