ZOTEFOAMS

Technical Information Sheet TIS 01 Annex A

GENERAL FABRICATION TOLERANCES - SPLIT SHEETS

Zotefoams products that are not sold as sheets at standard dimensions with their production skins in-situ require fabrication via a splitting (also known as skiving) process to achieve the agreed nominal thickness. This document outlines the fabrication tolerances Zotefoams have capability to produce to and the assessments undertaken to confirm material thickness is within the expected range.

Dimensional measurements of thermoplastic materials can be affected by the equipment used in the measurement as well as the temperature that the material has been stored at prior to measurement/use. International standards such as ISO 1923 or ASTM D3575 refer to a temperature of 23 °C +/- 2°C for measurements and it is recommended to use dial gauges such as those indicated in these standards for thickness measurements. The use of callipers is not recommended as these can result in unintentional compression of the foam during measurement, particularly for softer grades.

Thickness measurements at Zotefoams are made using a gauge table such as the one shown in the image below:

Figure 1 Side view of thickness gauge on gauging table

To ensure reliable measurements, the table surface needs to be flat with the foot of the dial gauge sitting in full contact with the table when in zero position.

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Prior to measurement the gauge should read “0” when sitting in contact with the gauge table.

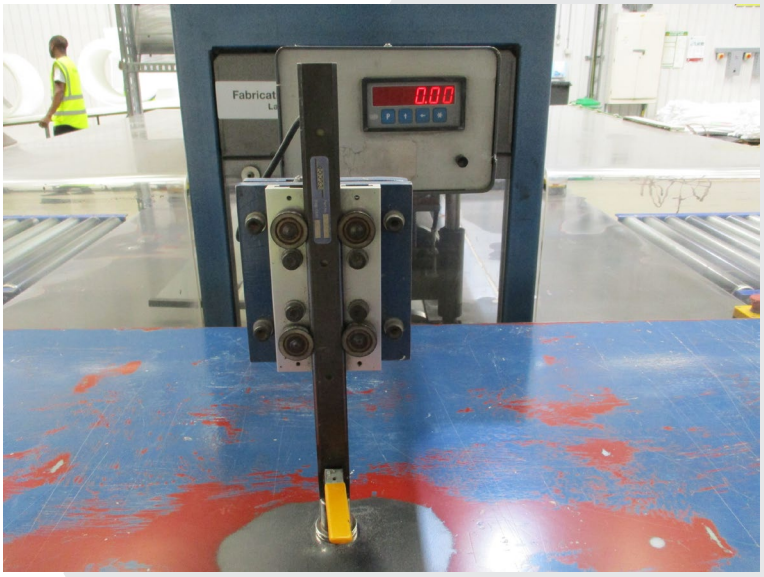

Figure 2 front view of thickness gauge on gauging table

For accurate measurements foam sheets need to be flat along the table without using excessive force to flatten particularly thicker samples of higher density foams.

Figure 3 Foot placement on flat sheet

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To accurately gauge the thickness of a sheet, take 5 readings, one near each corner and one in the centre of the sheet. These corner readings should be taken at least 30mm from the edge of the sheet and within the yieldable area of the material.

Figure 4 Corner thickness measurement

Figure 5 Centre thickness measurement

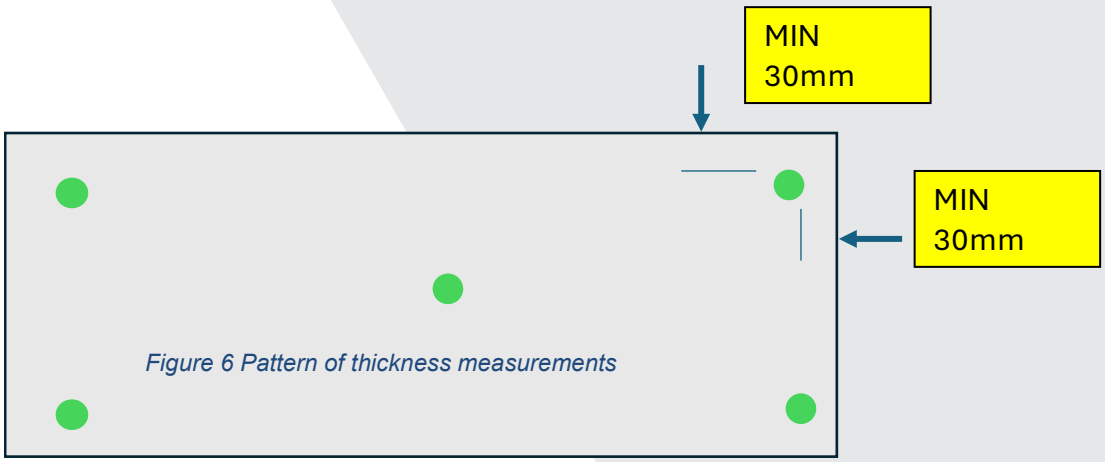

Figure 6 Pattern of thickness measurements

The sheet thickness is measured when setting up the splitting equipment for the desired thickness and spot checks are carried out throughout the production of each batch.

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The gauge tables are checked every six months in line with our internal calibration procedure. Calibrated gauge blocks, externally verified against ISO 3650 are used in this process.

Figure 7 Calibration of gauge table using a 25mm gauge block

The tolerances Zotefoams can offer are dependent on the thickness of the product as detailed in the table below.

	General Fabrication Tolerances
≤ 5 mm	+/- 0.8 mm
>5 to ≤10 mm	+/- 1.0 mm
>10 to ≤15 mm	+/- 1.5 mm
>15 to ≤20 mm	+/- 2.0 mm
>20 to ≤30 mm	+/- 2.0 mm
>30 to ≤55 mm	+/- 2.5 mm

All points measured as described above are expected to be within the tolerances outlined in the table.
If different tolerances are required for a project, this should be discussed with our quality engineering team through your commercial contact.

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AEO UK Authorised Economic Operator

Quality
FM 01870
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