Technology inquiry 21 081

On behalf of an industrial client, *dtd* is looking for a:

"Measuring system for determining the layer thickness of a foamed polymer layer".

Background/ General Description

Our client is one of the leading manufacturers of sealing and shielding systems for the automotive sector. The company also develops service parts for the independent aftermarket, sealing materials and special seals for industrial applications as well as components for fuel cells.

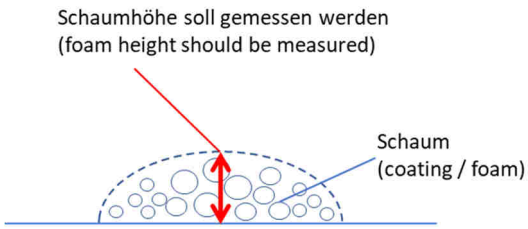
Basically, our customer is constantly striving and also challenged to constantly develop its sealing materials. As part of his development activities, he succeeded in developing a polymer coating with special properties. This coating is now applied to stainless steel substrate in the form of a foam. The application itself works, but measuring whether the same amount of foam adheres to all parts of the substrate poses problems. Equal adhesion is obligatory from a quality point of view, which is now prompting our customer to integrate a functioning method for layer thickness determination into the production process.

Description of the measuring system sought

Our customer is now looking for a suitable, non-destructive measuring system with which the foam can be measured. The measurement should preferably be carried out inline. If there is no possible approach for this, however, the customer is also satisfied with the atline variant. The foam is to be tested after curing/drying in the oven.

<u>Technical parameters of the foam after application</u>

- Layer width ca. 1mm
- Foam height ca. 110µm
- Foam factor ca. 3



<u>Requirements for the system sought</u>

- Layer thickness must be tested non-destructively
- Coating thickness must be tested directly
- Measuring process as inline or atline process
- Measuring time up to 1 min/measuring point (1 minute process time incl. evaluation per measuring point)
- Measuring window should be on an area of 500 x 300mm (this concerns the largest component)
- Automatic evaluation of the data
- Device must be usable under production conditions, which can be adapted

Cooperation possibilities

The goal of our client is to identify a suitable measuring system for determining the layer thickness on a foamed polymer layer by the end of 2022. The following forms of cooperation are conceivable:

- Purchase of the measuring system
- Further development of already existing technologies (**only TRL 7 and higher**)

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