Resin-bonded grinding pins

Grinding pin blanks are coated with a synthetic resin for bonding aluminum oxide or silicon carbide

Grinding pins are available in different sizes and shapes for a wide variety of applications. They frequently use aluminum oxide or silicon carbide as abrasives with the grain size depending on the field of application.
Twelve grinding pin blanks are placed in a magazine which is rotated 180 degrees. The pins are now suspended in the magazine. The blanks are immersed in an open overflow bath which is filled with synthetic resin. The resin is pumped through a circuit that also contains a reservoir. The reservoir, circuit and bath are not heated.
After being immersed, the resin drips off the blanks leaving a layer of the specified thickness. This thickness depends on the viscosity. Now the blanks are "dusted" with aluminum oxide or silicon carbide so the grains stick to the resin. If the layer is too thick and the grain size too small, the grains will sink into the resin; if the layer is too thin and the grain size too large, the grains will not stick properly. After „dusting", the pins are cured and dried in electrically heated chamber furnaces with a circulating current of hot air.
The open resin bath loses solvent continuously. This loss must be compensated in order to maintain a constant viscosity and ensure the thickness of the resin layer meets the specifications. Temperature fluctuations within the production hall also influence the viscosity in the bath.

VA-100C-LT with Varivent® Fitting 50 – 1.4404/316L

VS-D250 with 2 analog outputs

Installation

The sensor is installed in a Varivent® flow cell in the supply line to the overflow bath. In order to prevent sludge formation, the cell is positioned at an angle of 45 degrees and filling takes place from above. The immersion bath is located above the flow cell. The siphon effect ensures the cell is always filled with resin.

ViscoScope® Viscometer configuration

- ✓ Sensor: VA-100C-LT with Varivent® Fitting 50 – 1.4404/316L
- ✓ Calibration range: 0 – 500 mPa.s x g/cm3
- ✓ Flow chamber: Varivent® housing Type L - DN50; In- and outflow host connection ¾" ; Sensor connection Varivent®
- ✓ Transmitter: VS-D250 with 2 analog outputs (viscosity + processtemperature), mounted into a control cabinet

Benefits

- ✓ Correct thickness of the resin layer
- ✓ Better dosing of solvents
- ✓ Eliminates need for unscheduled flow cup measurements

Process conditions

- ✓ Temperature: 15 - 30°C
- ✓ Pressure: up to 3 bar
- ✓ Hazardous area: none
- ✓ Process connection: host ¾"
- ✓ Flow rate: 10 liters / min
- ✓ Pump: membrane pump

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ENGINEERING
MANUFACTURING
Made in Germany.

Fluid.iO
Sensor + Control GmbH & Co. KG
An der Hartbrücke 6
D - 64625 Bensheim

Sales & Consulting
Telephone: +49-6251-8462-0
Email: info@fluidio.de

Fluid.iO SENSING FLUID EXCELLENCE