EN
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GERLACH MASCHINENBAU

Vulcanisation oven
HeatStraD L 200

Laboratory machine for validation and investigation of physical crosslinking behaviour of elastomers.

The laboratory machine unites the energy forms of hot air, microwave energy and infrared energy of different wavelengths for the vulcanisation of elastomers in a laboratory scale.

Whether for the scientific proof of simulation results or the practical determination of an ideal vulcanization, the machine offers a high degree of flexibility and study opportunities.

Modern measuring instruments detect in addition the actual temperature and the heat distribution in the product. Measuring diodes detect the reflected microwave energy.

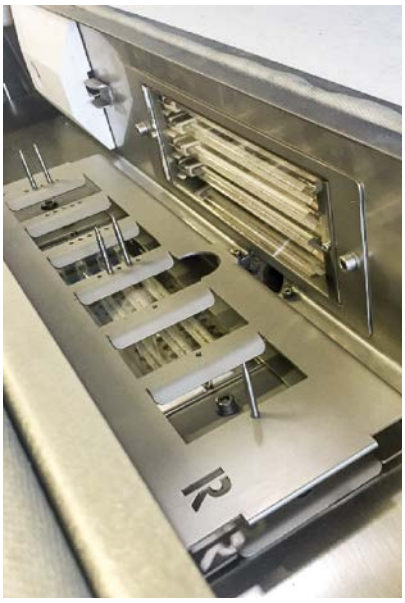
By data analysis of power consumption by the initial used product, the right energy form and exposure time can be determined.

APPLICATIONS

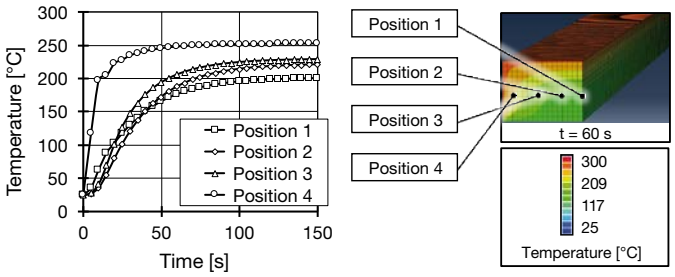
- **Experimental validation in the laboratory extrusion**
- **Power input as a combination of different energy sources**
- **Material specific optimization of existing crosslinking processes**
- **Thermal simulations focusing on heat transfer and heat conduction**
- **Material analysis based on the UHF-efficiency in low polar compounds**
- **Compound specific tests of micro cross linkage**
- **Comparison of surface appearance and haptics depending on the used energy form**
- **Simulation of curing lines by random combination of the available energy sources**

MACHINE DATA HeatStraD L 200

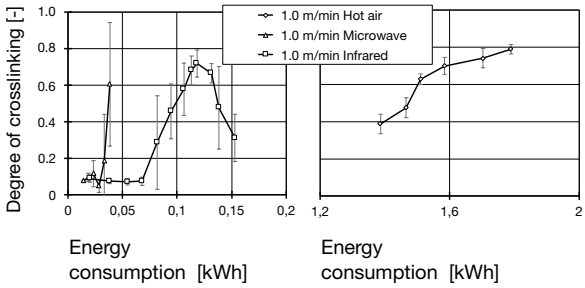
Machine dimensions L x W x H	2000 x 1500 x 1370 mm
Maximum probe dimensions L x W x H	430 x 130 x 85 mm
Multifunctional probe and sample holder	yes
Temperature range of gas heating	100-500 °C
Adjustable air velocity	yes
Fresh and circulating hot air process flow	yes
IR short wave (light emitters), stepless power output	6 kW
IR medium wave (dark radiators), stepless power output	600 W
Microwave with reflection detection, stepless power output	6 kW
Temperature sensors for probe samples	yes
Air velocity measurement	yes
Display temperature and thermal imaging of the test sample	yes
Pneumatic opening of the top flap	yes
Electrical connection	230/400 V, 3 Ph, 50 Hz, PE+N
Touch display and PLC	Siemens, S7
Machine design	EU conform



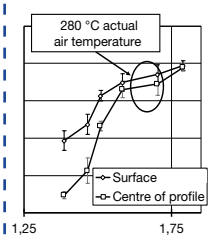
EXAMPLE: VALIDATION OF A HEATING SIMULATION



EXAMPLE: SPECIFIC ENERGY COST ANALYSIS

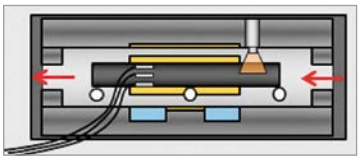


HOMO-GENEITY



INSTITUT FÜR KUNSTSTOFFVERARBEITUNG
IN INDUSTRIE UND HANDWERK AN DER RWTH AACHEN

VULCANISATION OVEN HeatStraD L 200



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