

## Thermal Analytical Laboratory

- ▶ specific heat capacity  $c_p$  (T)
- ▶ Transformation enthalpies
- ▶ Density  $\rho$  (T)
- ▶ thermal expansion coefficient  $\beta$  (T)
- ▶ Temperature leading coefficient  $A$  (t)
- ▶ Thermal conductivity  $\lambda$  ( T ) to 1600 ° C , among other for
  - ▶ Metals (including liquid)
  - ▶ Ceramics
  - ▶ Insulation
  
- ▶ Dynamic differential scanning calorimeter Netzsch DSC 404 C Pegasus ( 20 ° C - 1650 ° C measuring error < 5 % , measured in different atmospheres )
- ▶ Dilatometer Netzsch DIL 402 C ( 20 ° C - 1700 ° C , measuring error < 3 % )
- ▶ Laser Flash system Netzsch LFA 427 ( 20 ° C - 1600 ° C , measurement error  $\pm 3$  % , 0.001
- ▶ Thermal analyzer Setaram TG92
  - ▶ Simultaneous , caloric and thermal gravimetric measurements
  - ▶ DTA / DSC and TG in conjunction with a mass spectrometer ( Thermolab 1210)
  - ▶ Temperature range -100 ° C - 1600 ° C
- ▶ Hot-Disk-System
  - ▶ Determination of thermal conductivity of solids and liquids
  - ▶ Measuring range : 0,01 - 500 W / ( m · K )
  - ▶ Temperature range: RT to 230 ° C ( Kapton ) sensor , RT to 750 ° C (Mica sensor)



#### Technology

- ▶ PC and Server Technology of Thermodynamics
- ▶ Pilot Plant Rotary Kilns
- ▶ Thermal Analytical Laboratory
- ▶ Thermal Laboratory

