

Thermocyclic Oxidation with in situ Acoustic Emission Analysis (AE)

Schematic of the AE-set up

- Pre-amplifier
- AE-transducer
- Pt wave guide
- Furnace moving up and down
- Thermocouple
- Quartz glass tube
- Specimen

Measurement Data

- Time
- Temperature
- Hits: Amplitude
- Energy
- Duration
- Counts
- Rise Time
- etc...

Graph Data:

Time (min)	Temperature (°C)	AE Hits
16000	~1000	~100
16100	~1000	~100
16200	~1000	~100
16300	~1000	~100
16400	~1000	~100
16500	~1000	~100
16600	~1000	~100
16700	~1000	~100
16800	~1000	~100

Formation of cracks in the TBC solely during cooling