Quality assessment of Portland cement

**Fineness / strength class**

- CEM I 32.5 R
- CEM I 42.5 R
- CEM I 52.5 R

**Quality from cement plant**

- CEM I OPC 32.5 R Type 1
- CEM I OPC 32.5 R Type 2

**Effects of aging / storage on quality**

- CEM I 32.5 R
- CEM I 42.5 R
- CEM I 52.5 R

Reaction behaviour of different cement types / cementitious materials

**Different types of CaSO₄- and Ca₃(PO₄)₂-cements**

- CEM I 32.5 R
- CEM I 42.5 R
- CEM I 52.5 R

**Slag cement – OPC/slag blends**

- Hydration of different CaSO₄-cements (CsA), w/c = 1, T = 20(±) °C.
- Hydration of OPC/slag blends, w/c = 1, 20(±) °C.
- Hydration of (Ca₀.₅₋ₓSrₓ)Al₂O₄ solid solution compositions, w/c = 1, T = 20(±) °C.

Hydration control by admixtures; influence of ambient temperature

**Hydration heat of lime slaking**

- Hydration control of lime with ethanol to reduce heat development.

**Functional adjustment of setting point – e.g. by retarders**

- Hydration control of CAC (Secar 51) with different admixture concentrations of formic acid (HFO) and calcium formate, Ca(HCOO)₂/ Ca₂⁻⁻Fo, w/c = 0.5, T = 20(±) °C.

References:

