

## Portland cement CEM I 52,5 R (sp)

**Märker Portland cement CEM I 52,5 R (sp)** is produced by intergrinding ultra high grade Portland cement clinker with sulfate agents to regulate the setting. **Märker Portland cement CEM I 52,5 R (sp)** is ideal to produce wet-mix shotcrete.

**Märker Portland cement CEM I 52,5 R (sp)** is characterized by very low strength fluctuations. Due to its high specific surface area, it has an exceptional water retention capability and therefore does not tend to "bleed". Its high heat of setting means that concreting is also possible during cold periods of the year.

**Properties:** Very high early strength - Minor hardening  
Very high level of hydration heat development

**Applications:** Production of

- wet-mix shotcrete according to DIN 18551/ EN 14487-1
- concrete, reinforced and prestressed concrete according to EN 206-1 / DIN 1045-2
- prestressed concrete according to DIN 1045-1
- concrete constructions according to ZTV-Ing <sup>(1)</sup>
- concrete products, precast concrete elements

Recommended compressive strength:  $\geq$  C 30/37

The concrete composition should be determined through initial tests in due time before the start of concreting work so as to achieve the necessary fresh and hardened concrete properties reliably and economically.

Miscible with all cements according to DIN EN 197, but not with gypsum or gypsum products.

**Processing:** In order to make the best use of the cement's performance and guarantee the durability of the concrete structures built with this, adequate curing in accordance with DIN 1045-3 must be ensured to protect these from drying out too quickly as well as frost.

Avoid any contact with your eyes and skin when processing the cement. Wear appropriate protective clothing.

**Standard:** Cement according to EN 197-1

**Quality control:** In-house production control and external monitoring by FIZ GmbH, Düsseldorf.

**Supply:** Bulk in silo trucks, available in Harburg

**Storage:** Cement should be stored in a dry place and protected against moisture. Bulk goods are low in chromate for 2 months after delivery, pursuant to Regulation (EC) No. 1907/2006

### Development of compressive strength

Time [days]	Compressive strength [MPa]
1	ca. 25
2	ca. 45
7	ca. 60
28	ca. 67
56	ca. 70
90	ca. 72

### Evolution of hydration heat

Time	Energy J/g
1 h	15
4 h	30
8 h	80
1 d	200
2 d	280
4 d	340
7 d	360

<sup>(1)</sup> Additional technical terms of contract and guidelines for civil engineering works (German designation: ZTV-ING)

Please refer to our current safety data sheets according to EC Regulation No. 1907/2006 for tips on handling our products. Any information, product descriptions or technical data provided in this publication is without warranty and any liability is excluded. The values in our data sheets are average values based on numerous measurements.

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