



## PROPERTIES

Grey special cement for the preparation of ultra-high-strength concrete

## APPLICATIONS

Production of precast concrete parts for mechanical engineering with compressive strengths of approx. 150 N/mm<sup>2</sup>

Applicable for indoor and outdoor use.

## COMPOSITION

Portland cement, quartz powder

## SUBSTRATE / FORMWORK

Concrete produced with TEGNO is suitable for casting in moulds.

When casting in concrete moulds or casting moulds that are not made of silicone, use the mould release agent PLOPP or a comparable agent, preferably wax-based. No release agent is required for silicone moulds.

If water is removed from the concrete by capillary action, discolouration and sanding of the edges is to be expected. Therefore, care should be taken to ensure that the mould is sealed watertight in order to produce castings with defect-free edges. The use of MOLLYPUT kneading silicone is recommended for sealing and rounding off the inner edges of the casting mould.

## VERARBEITUNG

### Working temperature

Do not apply at air, material and substrate temperatures below +5 °C and above +30 °C.

### Working time

approx. 20 minutes (times refer to +20°C and 65% relative humidity.) Mortar that has already set must not be diluted with additional water, mixed and further processed.

### Mixing / Preparation

Mix bag contents (25 kg) with the appropriate aggregate, superplasticiser and max. 4 litres of clean water to a flowable consistency. It is strongly recommended to use a compulsory mixer. The required mixing time is at least 5 minutes. Quantities up to 10 kg can be mixed with a whisk if necessary. Mixing is facilitated if only 75 % of the dry mass and 100 % of the intended amount of water are initially added and mixed until a flowable consistency is achieved. The remaining dry mass can then be added and stirred in.

Only mix as much material as can be applied consistently within the working time.

The recommended standard formulation consists of 1000 g TEGNO, 410 g washed sand (air-dry, grain size 0 to 2 mm) and 840 g basalt chippings (air-dry, grain size 2 to 5 mm) as well as 13 g superplasticiser FLUP-PCE-375 and 160 g water.

In combination with DURIGID granulation, TEGNO can also be used to produce a special concrete with an extremely high modulus of elasticity ( $E > 80$  GPa). For this concrete, the recipe consists of 1050 g TEGNO, 1193 g DURIGID 1-3 mm, 430 g DURIGID 3-6 mm as well as 17 g superplasticiser FLUP-PCE-375 and 149 g water.

When using moist sand, it should be noted that it usually already contains between 25 and 100% of the total permissible amount of water. The amount of water added must then be reduced accordingly.

CAUTION: Do not use any other additives such as accelerators or retarders.

### **Application / Processing**

The material is quickly poured into the mould immediately after mixing. Afterwards, the rising of remaining air bubbles from the mass can be supported by light tapping, poking or jerking, which is particularly recommended when pore-free visible surfaces are required.

### **Setting / Hardening**

Protect from too rapid water extraction by sun, wind or draught.

Low temperatures delay, high temperatures accelerate solidification and hardening.

### **Tool cleaning**

Clean tools and equipment with water immediately after use.

### **Other information**

No specific information

## **CONSUMPTION / YIELD**

Consumption: approx. 1 kg per litre fresh concrete

Yield: approx. 25 l fresh concrete per 25 kg bag

## **TECHNICAL DATA**

Processing temperature:	+5 °C to +30 °C
Working time at 23 °C:	approx. 20 minutes
Water requirement:	approx. 4 litres per 25 kg
Mixing time:	at least 5 minutes
Grain size:	flour fine
Hue:	grey

## **DELIVERY FORM**

25 kg bag, 5 kg bag

## **STORAGE**

Store in a dry and appropriate place.

Can be stored for at least 12 months from the date of production in the sealed original container.

## SAFETY INSTRUCTIONS

The product reacts strongly alkaline with moisture/water. Therefore protect eyes and skin. Wear rubber gloves when applying the product manually. In case of contact with skin, rinse with plenty of water. In case of eye contact, consult a doctor immediately. Observe further instructions in the safety data sheet.

GISCODE: ZP1 (cementitious products, low in chromate).

## DISPOSAL

Dispose of in accordance with official regulations. Empty containers should be recycled. Material residues can be disposed of according to the Waste Catalogue Ordinance under waste code 17 01 01 (concrete) or 10 13 14 (concrete waste and concrete slurry).

## GENERAL INSTRUCTIONS

The information in this leaflet only represents general recommendations. Should any questions arise in a specific application, please contact our responsible technical sales consultant or our online forum <https://betonsprechstunde.moertelshop.com>. Due to the use of natural raw materials, the stated values and properties may be subject to fluctuations. All information is based on our current knowledge and experience and refers to professional application and normal use. All information is non-binding and does not release the user from the obligation to check the suitability of the product for the intended use. A guarantee for the general validity of all information is excluded with regard to different weather, processing and object conditions. We reserve the right to make changes within the scope of further product and application technology developments. The general rules of construction technology, the applicable standards and guidelines as well as technical processing guidelines must be observed. With the publication of this technical data sheet, previous editions lose their validity. For the latest information, please refer to our website [www.moertelshop.com](http://www.moertelshop.com).

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