

# DENKA HIGH PRETASCON TYPE-I

Ultra-fast hardening non-shrink grout (rapid strength development)

# DENKA HIGH PRETASCON TYPE-II

Ultra-fast hardening non-shrink grout (excellent crack resistance)

## Description

**DENKA HIGH PRETASCON** is an ultra-fast hardening non-shrink grout for use in emergency works or cold climates; with long-term durability in civil and architectural construction.

## Features

- Suitable for use in cold climates or emergency works. Hardening in 20~30 minutes; shortening downtime required for emergency works.
- Enhances integration with existing structures. Bleeding as a result of void occurrence is minimized; enhancing adhesion to the bonded structure.
- High durability. With proper curing, required strength can be attained 3 hours after concrete placement.
- Useable in subzero temperatures. Hardens even at -10°C to result in quality grout.

\*Mortar mixing is to be done at 5°C~35°C.

## Applications

- Cold climate conditions where grouting is required
- Maintenance and reinforcement works where construction time is limited
- Maintenance of civil / architectural structures

## Packaging and General Information

- 25kg paper bags
- Appearance: Gray-white cement color
- Water content:
  - Type-I** 4.0~4.6 kg/bag
  - Type-II** 3.4~4.0 kg/bag
- Cementitious contents to sand ratio
  - Type-I** 1:1
  - Type-II** 1:2

## Shelf Life

- 8 months from production date
- Determine the production date by reference to the lot number. A lot number of "1AXXX" corresponds to production in Jan 2001; "2BXXX" to Feb 2002 and so on.

## Standard Mix Proportions

Standard mix proportion per m<sup>3</sup>

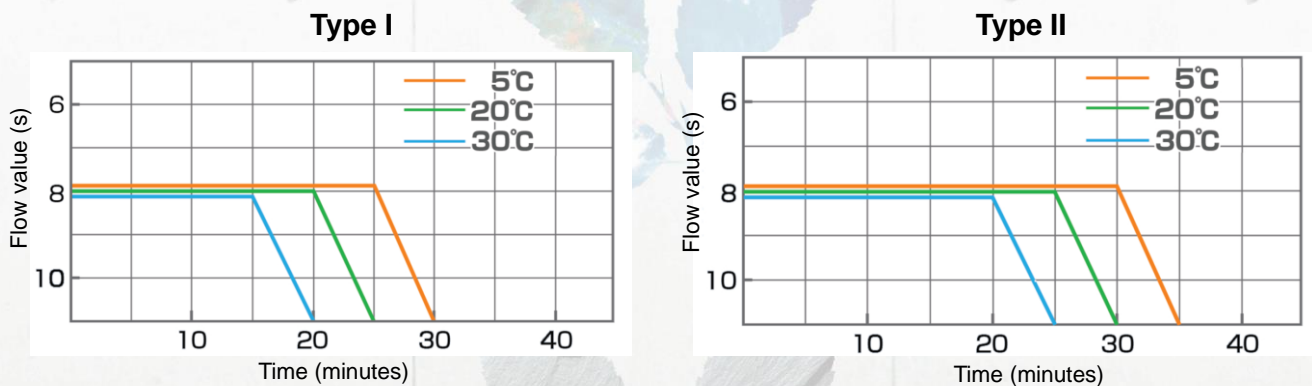
Product	Target consistency J <sub>14</sub> flow value (s)	W/Product (%)	Unit weight (kg/m <sup>3</sup> )		Usage Bags / m <sup>3</sup>
			Product	Water	
High Pretascon Type-I	8±2	17.2	1,875	319	75
High Pretascon Type-II	8±2	14.8	1,950	286	78

Standard mix proportion per bag (25kg)

Product	Target consistency J <sub>14</sub> flow value (s)	W/Product (%)	Unit weight (kg/m <sup>3</sup> )		Usage Bags / m <sup>3</sup>
			Product	Water	
High Pretascon Type-I	8±2	17.2	25	4.0~4.6	13.3
High Pretascon Type-II	8±2	14.8	25	3.4~4.0	12.8

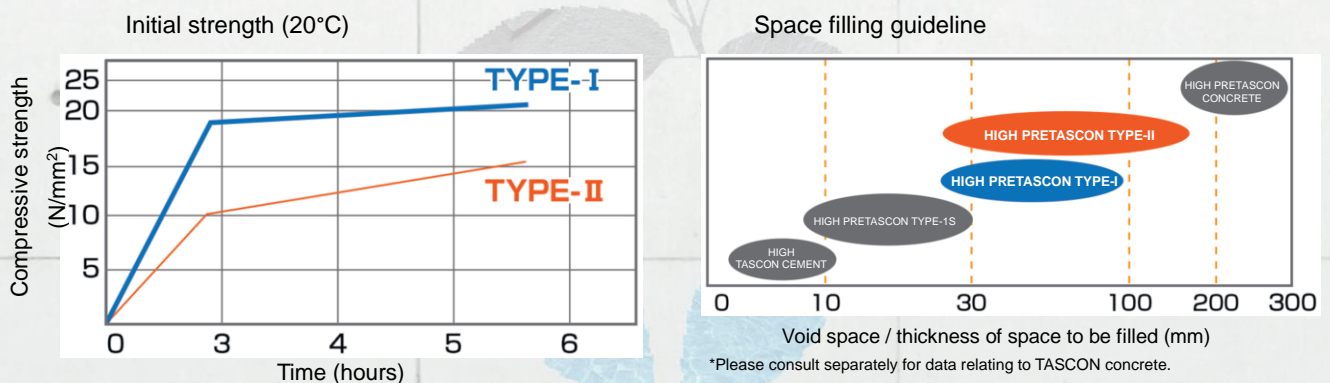
## Mortar Physical Properties (Arbitrary Values)

### Fluidity



To ensure a longer workability time, use retarder **Denka Setter D500**. Consult separately with regard to the recommended dosage rate and usage instruction.

### Initial strength (20°C) and space filling guideline



## Strength data

Product	Curing temp (°C)	Water (kg / bag)	Compressive strength (N/mm <sup>2</sup> )					
			3h	6h	Day 1	Day 3	Day 7	Day 28
<b>High Pretascon Type-I</b>	5	4.4	12.0	15.3	22.3	40.0	47.2	54.2
	20	4.3	19.0	21.4	35.2	46.2	53.0	63.5
	30	4.3	22.0	24.0	39.2	50.0	55.5	66.0

Product	Curing temp (°C)	Water (kg / bag)	Compressive strength (N/mm <sup>2</sup> )					
			3h	6h	Day 1	Day 3	Day 7	Day 28
<b>High Pretascon Type-II</b>	5	3.8	7.2	10.8	17.3	31.2	40.0	48.2
	20	3.7	11.0	15.2	25.4	37.8	45.4	56.0
	30	3.7	12.1	16.3	28.4	40.2	48.0	57.8

## Handling Precautions

### Mixing

- Use clean water free from oils, salts, or organic compounds.
- Depending on the product temperature, ambient temperature, mixer type, mixing quantity etc., water quantity to be used changes. As such, perform trial tests within the specified water quantity range to determine the appropriate amount of water used.
- Carry out mixing with a specialized high speed mortar mixer or a hand mixer at above 900 rpm for about 1 ~ 2 minutes. Use a stainless steel or iron agitating blade. Do not use an aluminum blade because hydrogen gas evolution can occur during mixing; causing unintended expansions.
- If the appropriate amount of water is not used, abnormalities can occur in the hardened concrete; leading to reduced performance. As such, do not use water quantities outside of the recommended range.
- If the  $J_{14}$  flow value is outside the target range, adjust the water temperature and volume accordingly.

### Concrete surface cleaning

- Before grouting, remove oily residues, laitance, and mud from the surface of concrete and allow sufficient clean water to absorb into the concrete.

### Grouting / Filling

- Before grouting, apply a primer or sprinkle water on the existing concrete structure.
- Fill the grout from one end either by the self-pressure or pump method; filling continuously until the mortar starts flowing out from the outflow end. Take caution to prevent air entrainment or void formation.
- As mortar is highly alkaline, avoid construction work where mortar comes into direct contact with materials corrodible under alkaline conditions (e.g. aluminium sashes)

### Grouting / Filling

- Once grout is completely applied, keep it away from direct sunlight or wind and ensure that the grout is constantly moist during curing. During cold weather (e.g. winter or when the temperature is below 5°C), ensure thermal insulation during curing. Hair cracks may appear on the grout surface if curing is incomplete.
- Cracks may also appear on exposed surfaces if sudden or long-term drying is carried out.
- Coat the mold used for compression strength tests with a demoulding agent. After pouring in the mortar, keep the surface from drying by film wrapping etc.
- When the ambient temperature is low (winter etc.), avoid curing in water and carry out sealed curing.

### Other Instructions

- Refer to the Safety Data Sheet (SDS) before use.
- Wear protective gear (goggles, mask, gloves, and rubber boots) while handling the product.
- Do not dispose of the product in drains.
- Once opened, the product should be used up completely within the same day.
- The product should be stored in a dry area, indoors, and out of direct sunlight
- For further information, please contact DENKA.

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