

DENKA SUPERCEMENT

Super Quick Hardening Cement

Description

DENKA SUPERCEMENT is a quick hardening cement comprising a mixture of powdered ordinary Portland cement and calcium sulfoaluminate; and is most suitable for emergency works where construction time is limited.

Features

- 20~30N/mm² strength obtainable in 2~3 hours
- Similar hardening performance even at low winter temperatures with S-5
- Reduces slump loss
- Increases cracking resistance
- Non-bleeding, minimal shrinkage
- 2 types available, S-5 (~15 minutes handling time) and S-30(~30 minutes handling time)

Applications

- Highways, railways, bridges, piers etc. where construction time is limited
- Cold weather construction
- Concrete foundation construction, repair
- Wall, floor repairs
- Sludge, industrial waste solidification
- Factory interior repairs

Packaging

- 25kg paper bags
- 1000kg bulk bags

Shelf Life

- 6 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 and Technical Data

- Standard Concrete Mix Proportions (Arbitrary Values)

Mix no.	Gravel size (mm)	Slump (cm)	Air amount ¹ (%)	W/C ² (%)	Sand (%)	Water	Unit quantity (kg/m ³)			Water-reducing agent
							SUPERCEMENT	Sand	Gravel	
1	25	8±2.5	3.0±1.0	45	48	158	350	876	964	-
2	25	8±2.5	3.0±1.0	36	43	136	400	783	1053	8.0
3	25	8±2.5	2.0±1.0	34	40	144	450	712	1084	9.0
4	25	8±2.5	2.0±1.0	32	37	150	500	636	1099	10.0
5	25	8±2.5	2.0±1.0	30	35	154	550	582	1097	11.0

¹No air-entraining agents are used.

²W/C includes water-reducing agents.

- Concrete Physical Properties (Arbitrary Values)

Compressive strengths of the above mix proportions are as below.

Temp. (°C)	SUPERCEMENT type	Mix no.	Compressive strength (N/mm ²)						Workability (mins)
			2h	3h	6h	Day 1	Day 7	Day 28	
5	S-5	1	-	13.8	16.8	22.5	28.5	32.6	13
		2	12.9	20.6	23.6	28.5	34.2	38.3	15
		3	16.0	25.5	28.4	34.8	40.5	44.9	18
		4	17.8	29.2	32.5	39.8	46.3	50.5	18
		5	21.0	31.8	35.9	44.7	52.1	55.8	18
20	S-5	1	-	17.2	19.7	25.7	30.4	34.7	15
		2	16.2	23.5	26.5	31.4	37.2	41.2	18
		3	18.5	27.5	30.4	37.2	44.1	51.0	20
		4	20.7	30.8	35.1	41.8	50.3	56.6	20
		5	22.9	34.1	39.0	46.8	55.3	61.7	20
30 ¹	S-30	1	-	17.1	21.8	26.6	32.4	36.3	13
		2	15.2	23.8	27.3	31.4	38.5	42.5	15
		3	18.2	27.6	31.5	36.6	44.2	51.0	18
		4	19.9	31.6	35.3	41.2	49.8	55.9	18

¹S-30 was used at mixing temperatures of above 25°C.

- Standard Mortar Mix Proportions (Arbitrary Values)

Mix no.	Cement to sand ratio	Flow value	Air amount (%)		Unit amount (kg/m ³)		
				Water	SUPERCEMENT	Sand	
1	1:1.5	200±20	3.0	259	786	1179	
2	1:2.0	200±20	3.0	245	662	1324	
3	1:3.0	200±20	3.0	246	491	1473	

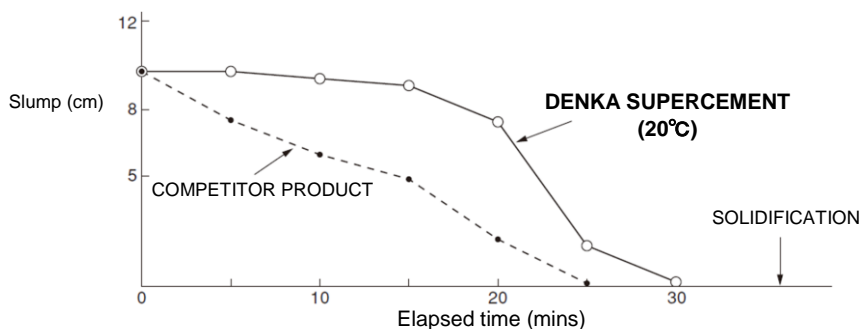
- Mortar Physical Properties (Arbitrary Values)

Compressive strengths of the above mix proportions are as below.

Temp. (°C)	SUPERCEMENT type	Mix no.	Compressive strength (N/mm ²)					Workability (mins)
			3h	6h	Day 1	Day 7	Day 28	
5	S-5	1	23.9	33.8	43.1	51.8	57.3	15
		2	21.7	29.7	36.8	43.7	51.4	15
		3	6.2	10.5	14.8	19.8	24.6	15
20	S-5	1	28.8	37.8	47.1	55.8	62.4	20
		2	25.7	33.7	41.3	49.2	56.4	20
		3	10.2	14.5	18.8	24.2	29.4	20
30 ¹	S-30	1	29.5	38.6	47.6	56.8	62.4	15
		2	26.1	33.7	41.3	49.2	56.4	15
		3	10.8	15.2	19.6	25.6	30.5	15

¹S-30 was used at mixing temperatures of above 25°C.

- Slump loss in **DENKA SUPERCEMENT** is minimal; improving work performance. If longer setting times are required, a retarding agent (e.g. DENKA SETTER) can be used to adjust the setting time as necessary.



Handling Precautions

- Refer to the Safety Data Sheet (SDS) before use.
- Take note that hardening time may be extended when using **DENKA SUPERCEMENT** in the milk form.
- Use ASAP once mixed as the mixed cement will rapidly harden.
- Wear protective gear (goggles, mask, gloves, and rubber boots) while handling the product. Do not dispose of the product in drains.
- If any part of the body comes into contact with **DENKA SUPERCEMENT**, wash copiously with water as it is alkaline.
- Once opened, the product should be used up completely. Otherwise, reseal for storage.
- The product should be stored in a dry area, indoors, and out of direct sunlight.
- For further information, please contact DENKA.

Limitation of Liability

The information contained in this brochure provides general advice for potential customers of DENKA about the basic properties and characteristics of various DENKA products (hereafter referred to as "the Product Information"). DENKA makes no warranty or representation as to the entire accuracy or completeness of the Product Information in this brochure. Nothing in this brochure will be deemed to create any express or implied warranty or obligation of DENKA with respect to the Product Information or its use, including, but not limited to, any warranty of merchantability, fitness for a particular purpose, or infringement of any intellectual property rights. Each user of the Product Information and DENKA products assumes their own responsibility to properly determine the manner and suitability of use of the Product Information and DENKA products in its own operations. The user should exercise proper care in considering the Material Safety Data Sheet, Product Information and any other technical information provided by DENKA, including descriptions of the conditions of use, warnings, and other cautionary instructions. DENKA reserves the right to change the Product Information from time to time at its discretion and without notice.

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