

DENKA FINE CSA-N

FAST DEMOULDING ADDITIVES for concrete production

1 Description

DENKA FINE CSA-N is a fast demoulding additive for concrete production. This product promotes strength development and reduces drying shrinkage.

2 Features

- Shorter production cycle, which reduces costs for steel mould preparation
- Reduced drying shrinkage and cracking, which enhances concrete durability

3 Typical applications

- Fast removal of steel moulds in concrete production (Segment, Box culvert)
- Application to ecological concrete added granulated blast furnace slag, fly ash



Box culvert



Granulated blast furnace slag

4 Mechanism of hydration

- Generation of ettringite ($3\text{CaO}\cdot\text{Al}_2\text{O}_3\cdot3\text{CaSO}_4\cdot32\text{H}_2\text{O}$)
- Promotion of the hydration of Portland cement



Ettringite



CaO-SiO₂-nH₂O

5 Physical properties

- CaO-Al₂O₃-SO₃
- Density: 2.89 g/cm³
- Appearance: Gray powder

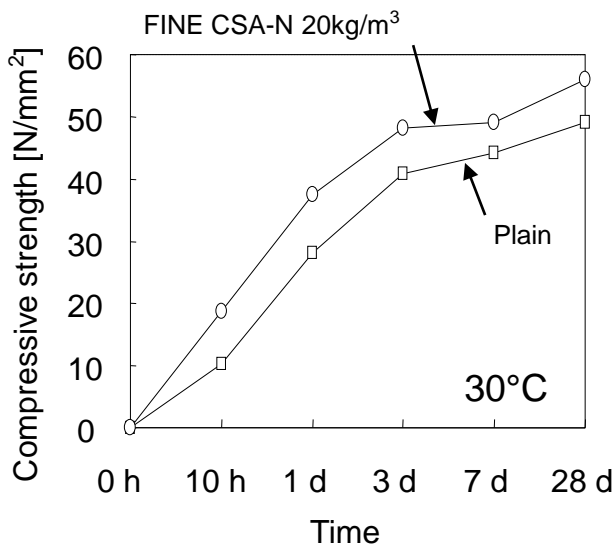
6 Packaging

- 20-kg bags

7 Mixing proportions and strength development

W/C	s/a	Unit content (kg/m ³)					SP (Cement × %)
		Water	Cement	FINE CSA-N	Sand	Gravel	
0.35	34	140	400	0	635	1242	1.2
0.35	34	140	380	20	635	1242	1.4

- W/C = water–cement ratio, s/a = sand–aggregate (sand plus gravel) ratio
- Cement = ordinary Portland cement, SP = super plasticizer based on naphthalene system.
- The concrete should be mixed at temperatures below 30 ° C



Time	Compressive strength (N/mm ²)	
	Standard	FINE CSA-N
10 h	10.3	18.8
1 d	28.0	37.5
3 d	40.8	48.1
7 d	44.1	49.0
28 d	49.0	55.9

8 Precautions when handling

- Refer to the Material Safety Data Sheet (MSDS) before use
- Optimize the dosage and dosing position of the product
- Wear protective clothing and equipment (e.g., goggles, mask, gloves, and rubber boots) during handling
- Store the product in an area with low humidity when possible
- Product in open bags should be used up completely or the bag should be resealed for storage
- For further information, please contact DENKA

<DENKA CHEMICALS HONG KONG Ltd>
 TEL: +852-3691-8636
 FAX: +852-2180-6929

<DENKA COMPANY LIMITED>
 Special Cement Additives Department
 TEL: +81-3-5290-5464
 FAX: +81-3-5290-5085

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