

,

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1.

21

IT, BT, NT

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가가 ,

[1]

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[2,3]

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가

[4]

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가

[5,6]

2.

(zero emission)

가가

(ecology)

가

NEDO (93 ~96)

가

(JIS)

가

가

가

(2CaO·SiO₂)

CO₂

가
Fe₂O₃, Al₂O₃, SO₃

가
C₄A₃S, C₂S, C₄AF

SiO₂가

100

가

ACBM

MDF(

[7]

가가

가

3.

3.1

1960

(MSF

PMS)

(NSF

PNS)

가 0.5-3.0%

20%

AE

PNS

PMS

()

가

PNS

PMS

가

PNS

PMS

PC(Polycarboxylate)

1997

PC

가

, 1999

18 cm

30 MPa

PC

PC

가

가

3.2

가

(migrating corrosion inhibitor)

(ZnO),

(Na-molybdate),

(tetramethyl phosphonium nitrite)

(amino-carboxylate)

가

3.3

가

가

(antiwashout

admixture)

(anti-segregating admixture)

가

K

3.4

(metakaolin)

(kaolin)

10%

가

가 (ettringite)

(alite)

가

가

4.

4.1

(self-compacting concrete, SCC)

가

SCC

가

1989

Okamura

SCC

/

가

SCC가

. SCC OPC

가

가

SCC가

가

4.2

1975

74

Water Tower Place

630 kgf/cm²

, 800 kgf/cm²

Two Union Square

1,300 kgf/cm²

가

,

800 kgf/cm²

,

600-700

kgf/cm²

가

.

가 1,500 kgf/cm²

가

(Reactive Powder Concrete, RPC)

200 mm

28

가

2,000 kgf/cm²

, 90°C

2

3

가

2,400 kgf/cm²

[8]

RPC

Sherbrooke

Monaco

,

가

가

,

가

4.3

1980

가

가

,

,

,

AE

,

,

. 1990

Great Belt Link

Confederation Bridge

EU 가 12

1996-2000

5

DuraCrete

[9]

가

[10]

Life365

가

가

가

가

5.

2010

CO₂

21C

가

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