



CTA thickner
solution system

*MEICELL® FMD is a non-ionic, water soluble Modified cellulose ether.
which offers a variety of functional properties when dissolve in water.
It can be used as thickeners, protective colloids, suspending agents and water retention agents in Cement tile adhesive.*

Cement Tile Adhesive

Thickner Solution

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CHEMICAL

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A Guide To Making The Right Tile Adhesive



According to GOST 56387, ISO 13007/AS4992 CE, and UNI EN 12004, there are three main classes:

Type	Description
Class C0	Class C0 is an adhesive for tiles with normal water absorption (5% of the tile weight and above). It is only suitable for small or medium-sized ceramics (not for porcelain stoneware by all means), to be installed in a heated indoor environment (no outdoors) but with no underfloor heating system, on a solid mineral substrate (cement plaster). The adhesion to the substrate, also known as the strength of the adhesive bond, for simple adhesive must be at least 0.5 MPa (0.5 N/mm2).
Class C1	Class C1 can be used on both ceramic tiles and porcelain stoneware. It is suitable for installations on underfloor heating systems, outdoor, in areas of high humidity, on drywall or hydro insulation materials. However, there are some restrictions regarding the size of tiles: you shouldn't use it for anything larger than 40x40cm on a non-deformable indoor substrate, and anything larger than 30x30 on a heated floor system, on drywall or hydro insulation materials. Outdoor work is only possible with small-format tiles in a basement or on a building facade. Such adhesives are not suitable for decorating entrances. Their adhesion strength must be at least 0.5 mPa (0.5N/mm2).
Class C2	Class C2 is an improved adhesive for all types of tiles and for almost any type of substrate, including old tiles. Adhesion strength is at least 1 mPa (1 N/mm2). Tiles format can be up to 60x60cm for standard C2. C2 class adhesives are also classified as S1 or S2, which refers to flexibility:
C2/S1 Flexible adhesive	C2 S1 class adhesives can be used when working indoor with tiles sized 20x80cm, 30x90cm, 60x120cm, and 20x120cm, including heated floors. When laying tiles outdoor it is still a suitable adhesive as long as you're working with 60x60cm tiles or smaller. You could also use it for large format porcelain tiles such as 100x300cm or 120x240cm but only if installing on strong, good quality plaster.
C2/S2 Highly flexible adhesive	C2 S2 class adhesive is used for any type of surface with tiles larger than 120cm on both sides. It works great when you need to lay tiles of any format on heated underfloors, plasterboard structures, outdoor terraces or balconies.

Classes C1 or C2 can also be additionally labeled with the letters T, E and F

T	T stands for Thixotropy. A more viscous adhesive with reduced vertical slip used for laying tiles from top to bottom, or wherever tiles are laid on a thicker than a regular layer of adhesive.
E	E stands for adhesive with Extended open time (30 minutes or more). This is the time during which the tiles can be laid. It is convenient to work with such adhesives during the summer time, since its surface dries up and sets slowly.
F	F stands for Fast setting adhesive, used at lower temperatures or when you need to get a quick set of adhesive strength.



● Workability

The lubricity of MEICELL® cellulose ethers improves workability, making spreading easier and increasing efficiency.

Users also prefer the "feel" that cellulose products give to tile adhesives and grouts in the actual site.

● Easy mixing without lumping

MEICELL® cellulose ethers as additives are vital when dry powder products are mixed by hand.

The lubricating properties of MEICELL® cellulose ethers reduce friction between particles, saving time and making thorough dispersion easier.

● Excellent water retention

MEICELL® Cellulose ethers increase the water retained by the adhesive, minimizing the amount absorbed by the substrate and by the tile.

This increased open time, and brings gains in productivity because the adhesive can be applied to a wider area. MEICELL® cellulose also can extend shelf life and pot-life of ready-mixed adhesives, prolonging their usefulness.

● Enhanced adhesion and sagging resistance

MEICELL® cellulose products enhance adhesion, even at high ratios of water to solids, ensuring a better result and preventing sagging. MEICELL® additives can help your products resist sliding, a benefit that tile setters will appreciate.

● Heat resistance

Heat resistance additives can be included in formulations using MEICELL® cellulose ethers to ensure that adhesives offer bonding strength after exposure to heat.

Product Type	Viscosity(Cps)	CTA grade	Recommend Dosage(%)
FMD-2376	60,000-70,000	C0	0.2
FMD-2364	50,000-60,000	C0,C1T	0.2-0.23
FMD-2353	40,000-50,000	C1T	0.35
FMD-2346	25,000-35,000	C1T,C2T	0.35-0.4
FMD-2335	19,000-26,000	C2T	0.4
FMD-2315	8,000-12,000	C2TE	0.4-0.6

C0

Normal Tile Cement C0 Formulation

Item	Dosage(kg)	Type
Portland Cement	300	42.5
Sand 40-70	400	40-70mesh
Sand 70-140	296	70-140mesh
CALCELL®	2.0	CALCELL® CAF-03
MEICELL®	2.0	MEICELL® FMD-2376 MEICELL® FMD-2364

recommend dosage is used per tonne of CTA
Industrial trials are required to determine the optimum dosage.

C1T

Standard Tile Cement for C1T Formulation

Item	Dosage(kg)	Type
Portland Cement	320	42.5
Sand 40-70	400	40-70mesh
Sand 70-140	170-180	70-140mesh
CALCELL®	5.0	CALCELL® CAF-03
MEICELL®	2.5-3.5	MEICELL® FMD-2364 MEICELL® FMD-2353 MEICELL® FMD-2346
REDICELL®	10-20	REDICELL® RPX-101 REDICELL® RPZ-101

recommend dosage is used per tonne of CTA
Industrial trials are required to determine the optimum dosage.

C2T

High Performance Tile Cement for C2T Formulation

Item	Dosage(kg)	Type
Portland Cement	400	42.5
Sand	400	40-70mesh
Sand	157-168	70-140mesh
CALCELL®	5.0	CALCELL® CAF-03
MEICELL®	3.0-4.0	MEICELL® FMD-2376 MEICELL® FMD-2364
REDICELL®	20-30	REDICELL® RPX-101 REDICELL® RPZ-101
PPCELL®	4.0	PPCELL®500

C2TE

High Performance Tile Cement for C2TE Formulation

Item	Dosage(kg)	Type
Portland Cement	400	42.5
Sand	400	40-70mesh
Sand	124-144	70-140mesh
CALCELL®	5.0	CALCELL® CAF-03
MEICELL®	4.0-6.0	MEICELL® FMD-2376 MEICELL® FMD-2364
REDICELL®	4.0-6.0	REDICELL® RPX-101 REDICELL® RPZ-101
PPCELL®	5.0	PPCELL®500



CTA SOLUTION SYSTEM

As a leading cellulose ether producer, DK FINECHEM provide system solution to Global CTA application partners.



Industrial trials are required to determine the optimum dosage.

CTA SYSTEM FORMULATION GUIDE

CTA category	System type	System dosage(%)	Portland Cement(%)	Sand 40-70(%)	Sand 70-140(%)
C0	CTACELL-C0	0.4%	30%	40%	29.6%
C1T	CTACELL-C1T	2.85%	32%	40%	25.15%
C2T	CTACELL-C2T	4.30%	40%	40%	15.7%
C2TE	CTACELL-C2TE	7.60%	40%	40%	12.4%

Tailor made Customized Customized%

* for the tailor made system please contact to sales team

DK FINECHEM

Cement Tile Adhesive

