

®KOMO vottun ásamt vöruskírteini

Númer: 20698/01

Útgáfudags.: 2001-12-01

LÍM TIL AÐ FESTA KLÆÐNINGARPLÖTUR

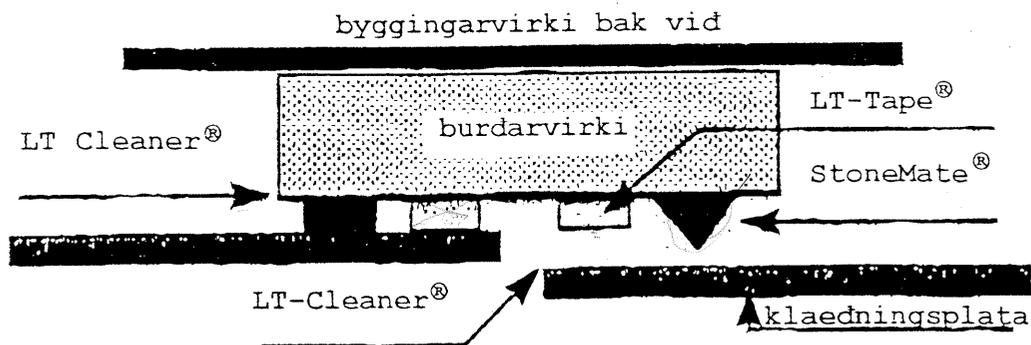
1. VÖRULÝSING

1.1 Efnið sem lýst er

Lím til að festa klæðningarplötur, gert úr MS Polýmeru og með festingarband fyrir upprunalega festingu.

1.2 Virkni límbindingar við notkun

Láréttur þverskurður í gegnum loðréttu festingu.



Til að ná góðri loftræstingu og til að losna við hugsanlegan vökva bak við klæðningarplötuna, er yfirleitt ekki notast við láréttar límbindingar. Ef þetta er samt gert (t.d. í tengslum við kröfur um flatneskju platna), þá skal það gert þannig að góð loftræsting og útgönguleið fyrir hugsanlegan vökva séu tryggð. Slíkri lárétrri límbindingu er ekki ætlað að gefa heildarbindingunni milli platna og burðarvirkis aukinn styrk. Límið gefur þann árangur sem nefnd er í töflu 3 í þessari vottun ásamt vöruskírteini, þegar breiddin er minnst (eftir samsetningu) 12 mm og þykktin 3 mm. Það á að bera límið á í einni lotu yfir alla hæðina á þeim klæðningarplötum sem skal líma á burðarvirkið.

Festingarbandið þjónar tveimur tilgangum, s.s.:

- að tryggja það að þykkt límsins er jafnt, og nægjanlegt til að taka í sig hreyfingar klæðningarplatananna, sem koma til vegna þennslu og minnkun (vegna hitastigs).
- að veita tímabundna festingu á meðan verið er að líma plöturnar á.

1.3 Tæknileg lýsing

Tæknileg lýsing á líminu og festingarbandinu sést í töflunum hér fyrir neðan:

Tafla 1

lýsing á líminu	StoneMate®
litur	svartur
geymsluþol	12 mánuðir í innsigliuðum umbúðum
togkraftur	1,62 N/mm ²
núningskraftur	1,98 N/mm ²
hámarks tilfærsla klæðningarplötunnar	1,4 mm

Skýring: hámarks tilfærsla plötunnar er sama sem 40% af hámarks teygju í líminu, þegar þykkt límlagsins er 3 mm.

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Tafla 2

Lýsing á festingarbandinu	LT-Tape®
togkraftur	0,23 N/mm ²
núningskraftur	0,22 N/mm ²
þykkt	3 mm
brýstingskraftur	0,025 N/mm ²

Þau gildi sem eru gefin upp um festingarbandið gilda fyrstu 24 klukkustundir eftir notkun límsins.

1.4 Burðarvirki

Það skal sýna fram á, með útreikningum, að burðarvirkið og festing þess við byggingarvirkið sem liggur bak við, sé nógu sterk og stíf til að taka í sig þá krafta sem mældir eru samkvæmt NEN 6702, eftir að klæðningarplöturnar hafa verið festar með lími.

Burðarvirkið þarf að vera flatt og reglulegt (ósnúið) þegar plöturnar eru festar, með hámarksfrávik + eða – 1,0 mm, bæði með tilliti til fræðilegs flatarins, og plötunnar sem skal líma á.

1.5 Vörumerki

Pakkningin er merkt með ®KOMO merkinu

Þetta má gera með eftirfarandi hætti:

- orð-merkið ®KOMO eða
- myndin
- nr. 20698



ásamt skyldumerkingum:

- síðasta notkunardagur

Staðsetning merkisins: greinilega sjáanlegt á hverri seldri einingu.

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2. Virkni

2.1 Byggingaröryggi / Styrkur; Byggingarlögin gr.2

Við ákvörðun magns límsins sem nota skal á m² af flötinni sem á að klæða, má reikna með leyfilegum gildum eins og þau eru gefin í töflu 3. Tillit er tekið til eftirfarandi öryggisstaðla í töflunni:

- togkraftur: 4
- núningskraftur: 10

Tafla 3: Límtegund: StoneMate®

Burðarvirki	klæðningarplötur	meðferð fyrirfram	reiknað gildi togkrafts	reiknað gildi núningskrafts
ál	ummyndað berg: -Gneis eða samb.	hreinsa burðarvirkið með LT-Cleaner®	0,41 N/mm ²	0,18 N/mm ²
	storknunarberg: Granít (Asian Black) eða samb.	hreinsa húsbýgginguna með LT-Cleaner®	0,41 N/mm ²	0,20 N/mm ²

3. LEIÐBEININGAR FYRIR NOTENDUR

3.1 Við afhendingu á að athuga hvort:

- 3.1.1. það sem afhent er, sé það sem pantað var
- 3.1.2. tegund og merkingar séu réttar
- 3.1.3. vörurnar séu ekki með sýnilega galla sem hafa orsakast af flutningi og slíku.
- 3.2 Ef ákveðið er, á grundvelli þess sem er ritað undir 4., að samþykka ekki vöruna, skal hafa samband við:

3.2.1 Tweha Trading BV

og einnig, sé þess þörf, við:

- 3.2.2. Vottunarstofa Hout SKH
Skrifstofubýgging Gooierserf
Huizermaarweg 29, 1273 NA Huizen
pósthólf 50, 1270 AB Huizen
Sími: +0031-35-526 87 37, Fax: +0031-35-526 83 81

3.3 Framleiðanda ber skylda til þess að tryggja að kaupandi hefur, á vinnustaðnum, aðgang að eintaki af vöruskírteininu í heild sinni.

3.4 Notkun

Límin eru ætluð til festingar klæðingsplatna í (íbúða)byggingariðnaði

3.5 Athugið hvort vöruskírteinið sé ennþá í gildi. Skoðið SKH vefsíðuna: <http://www.skh.org>

Technical properties of LT Cleaner.

	Features
Chemical basis	mixture of aliphatic hydrocarbon solvent
Colour	transparent, colourless
Density	0.75 g/cm
Working temperature	-10°C to +40°C
Packaging	litre bottle, 5 litre jerry-can, 25 litre canister or 200 litre drum.
Shelf life and storage	12 months if stored in a dry place in undamaged, unopened, original packaging at temperatures between +5°C and +20°C.

An aggressive adhesive primer is not necessary for the adhesion of StoneMate® to the cladding. It is sufficient to make the surface free of dust and to remove any residues of grease with LT Cleaner.

Technical properties of LT Tape.

	Features	Comments
Chemical basis	closed-cell polyether foam	
Colour	white / black	
Size	12 x 3 mm	
Density	0.05 g/cm ²	Din 51757
Tensile strength	1.4 N/mm ² = 1.4 MPa	
Shear load	1.2 N/mm ² = 1.2 MPa	
Working temperature	-10°C tot +40°C	
Temperature resistance	-50°C tot +150°C	
Supplied as	25 m roll	

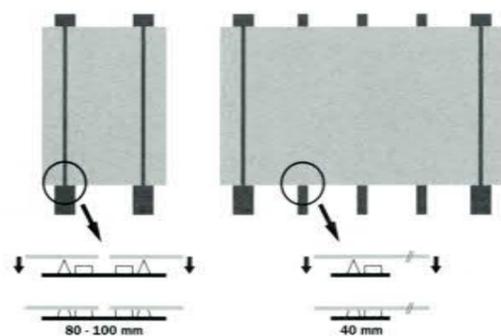
Double-sided self-adhesive tape for: 1) the fixing of natural stone panels
2) the hardening of StoneMate® cladding adhesive
3) the application of the recommended adhesive thickness of 3 mm.

When used for the application of cladding, StoneMate® is not by itself capable of achieving the required fixing time, on account of its hardening time. LT tape provides the necessary fixing during this time. In addition, for the fixing of cladding panels StoneMate® must be able to absorb elongation and shrinkage. To do that, a certain thickness of StoneMate® is required; the necessary thickness has been established to be 3 mm. The thickness of the LT tape ensures that this minimum thickness is always available.

LT Supports.

With StoneMate®, we recommend the use of an aluminium underlying structure (AlMgSi 0.5). The vertical T-sections can be attached to the building structure with the aid of LT Supports. The detailing of the underlying structure is dependent on the specific situation and design. The distances between centres of the vertical T-sections must be determined on the basis of the standards in force and by using statistical calculations. Our Technical Department will be pleased to answer any questions you may have.

With regard to the adhesive bond, StoneMate® makes the following requirements:



The minimum dimensions of the adhesive groove must be 12 x 3 mm. In accordance with the KOMO Certification and the technical manual, extra conversion factors of respectively 4 and 10 are used for the tensile strength and the shear strength. Please refer to the standard tests, such as those on our website (www.stonemate.nl), which can be carried out for you by our Technical Department.

Safety Instructions.

In the event of normal use and storage, no special provisions are required for StoneMate®, LT Cleaner and LT tape with regard to safety precautions and transport classification.

StoneMate® Instructions



StoneMate® Instructions

StoneMate® is a durable adhesive which has been specially developed for the permanent bonding of cladding made of stone-like materials such as natural stone, ceramics and composite materials. StoneMate® is applied as part of the "LT System", which consists of StoneMate®, the double-sided adhesive LT tape and an aluminium underlying structure. StoneMate® allows stone-like cladding to be attached invisibly to the aluminium underlying structure.

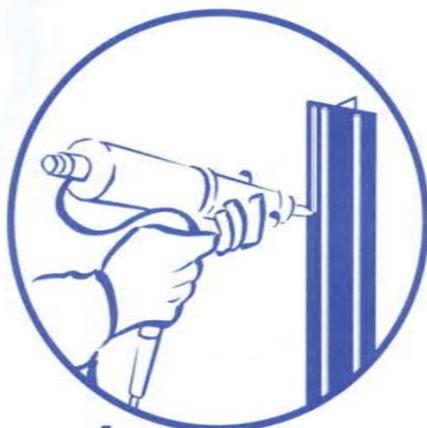
StoneMate® is seen as an innovation in the renovation and new building sectors because the system is quick-acting and saves money. In addition, the StoneMate® LT system guarantees permanent fixing to almost any substrate. Our Technical Department will be pleased to answer any questions you may have.



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The use of StoneMate® offers the following advantages:

- StoneMate® can be applied universally, for all stone-like materials, to all types of underlying structures.
- StoneMate® is a single-component adhesive.
- StoneMate® can be applied in both dry and wet environments, which offers an advantage in connection with the wet working of natural stone.
- StoneMate® does not require an aggressive adhesive primer.
- StoneMate® dries quickly, with an "open time" of 10 minutes and is tack-free after 30 minutes.
- StoneMate® is not conductive, it remains elastic with a high elastic strength and can therefore absorb stresses resulting from temperature fluctuations.
- StoneMate® forms a tough skin (hardness: shore A-60), and has a high tensile strength of at least 2 N/mm².
- StoneMate® does not contain solvents or isocyanates.
- StoneMate® is resistant to vibration, ageing, weathering, UV rays and torsion.

The use of StoneMate® provides the following advantages for cladding:

- The adhesive bonds are 'continuous' joints. Deforming or weakening the materials to be connected, such as is the case with rivets and bolts, is not necessary with adhesive bonds.
- The adhesive bonds ensure an even distribution of stresses in the joint, which means that a high fatigue strength can be obtained.
- Materials of different types can be bonded to each other.
- The adhesive bonds are invisible, which makes the external appearance of the cladding more attractive.
- In the case of natural stone cladding, the 'pin breakout value' is no longer applicable, which means that the thickness of the panel can be adapted to the representative value indicated by the bending strength. A decrease in panel thickness is not only of interest economically, it will also make handling and logistics much easier.
- The bonds are impermeable to liquid and gas, thus preventing any electrolytic crevice corrosion.
- The adhesive bonds provide both thermal and electrical insulation (no transfer of heat/cold).
- The adhesive bonds absorb vibrations and noise.
- The design possibilities are increased.
- Design and construction time is considerably reduced.
- Separate mounting of underlying structure and cladding.

Technical properties of StoneMate®

Features	Comments
Chemical basis	Component based on hybrid polymers
Density	1.53 g/ml
Tensile strength	2 N/mm ² = 2 MPa
Shear load	2 N/mm ² = 2 MPa
Working temperature	-10°C tot +40°C
Skin formation	10 minutes at 23°C and 50% RV
Hardening speed	3 to 4 mm/24 hrs at 20°C and 50% RV
Temp. resistance	-50°C to +150°C
Material class	B2
Colour	Black

StoneMate® packaging.

StoneMate® is supplied in 600 ml aluminium tubes and can be stored in a dry place without any problem for 12 months in undamaged and unopened packaging at a temperature between +5°C and +20°C.