

Vortexed Supercement & Vortexed Superfoam

(Vortices technology contains purest cement only; no plastic, no resin, no dirty additives; it is a fire protector, bullets proof, a neutron absorber, a drinkable water approved/certified construction material, a super hard and smooth anti-bacterial coating, a low drag and low friction surface, an anti-biofouling easily dislodging any bonded fouling, a super-strong foam builder with thermal and acoustic protection)

The compression resistance to our Vortexed Supercement can be tailored as needed, because Vortexed Supercement compression's ranges from 50N/mm² up to 300N/mm² and is stable up to 800°C and can even act as bulletproof or neutron absorber. It sticks to concrete, on steel at max 5.1N/mm². It sticks on Fiberglas or wood also. It looks like porcelain. Vortexed Superfoam is glazy smooth.

In the thickness of 5mm Vortexed Supercements acts as a super hard abrading or non-abrading surface, fire protecting (F90 and F120) steel, it seals CO₂ and @5bar water pressure, it is approved for drinkable water and it subclasses at no comparison the best German XA3 class. Vortexed Supercement is stable against acids up to -1pH and alkali.

In 0.2 to 5 mm thickness Vortexed Supercement acts as wood fire protection, anti-graffiti, antibacterial, anti-corrosion on concrete and steel, photocatalytic self-cleaning. It is max. 250bar washable, it can be colored. Its surface is either shiny glassy or matt if polished. He will optimally apply on damp surfaces.

Vortexed Supercement is protecting the construction against any harsh marine environment degradation, withstands flying stones @250Km /h (shelters) caused by tornado and hurricanes.

Abstract of key peculiarities in Vortexed Supercement:

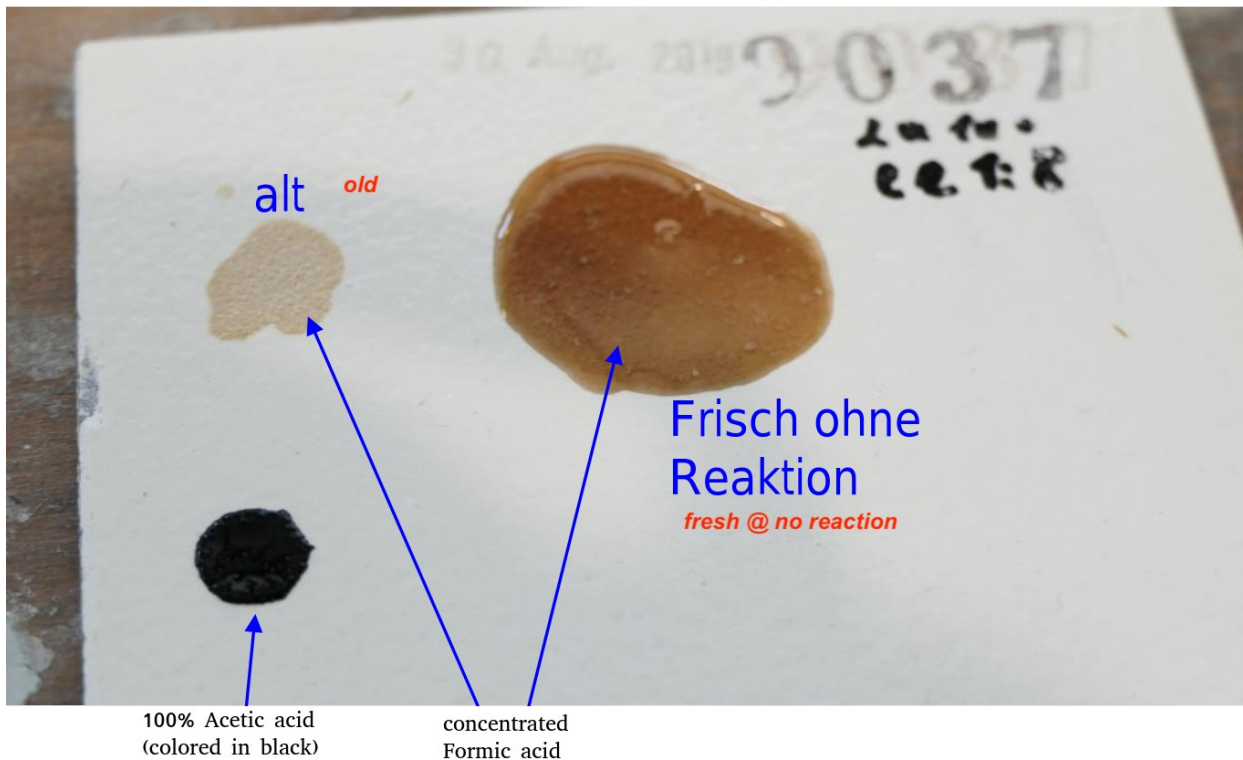
- 701 is anti corrosion and photo catalytic;
it is applicable from 0.1mm up to 0.5mm thickness;
- 673 (containing quartz) is hard and 1pH acids resistant;
it is applicable from 3 to 5mm thickness;
- 9027 (containing corundum) is super-hard and -1pH super acids resistant;
it is applicable from 0.5 to 3mm thickness;
- 9037 super-sticking (max 5.1N/mm²), is hard and -1pH acids resistant;
it is applicable from 0.5 to 1.5mm thickness;

673, 701, 9027 and 9037 all have photo catalytic effect. All have no CUI; no VOC are emitted, therefore reflecting International Maritime Organization (IMO) guidelines.

Aeronautics: Vortexed Supercement and fiber parts of a fuselage or wing withstand very high temperatures while moving in the atmosphere at a very high speed.

Anti-biofouling: Vortexed Supercement goes further than any other existing anti-bio fouling material and does not operate as a peeling layer while enhancing the vessel's flow in water and reducing drag. As an ultra-smooth surface sprayed @250bar, it provides a very hard, compact and low drag and low-friction surface by bionic effect, as well as, in minimizing the adhesion of fouling organisms, to vessel's surface; therefore, shear stress at the surface can easily dislodge any bonded fouling, without the surface being hydrophobic. Anti-wear of surfaces max 3,24cm³ / cm² (Böhme).

Anti-acids: Vortexed Supercement has no comparison with the German's XA3 top concrete class "harsh marine or industrial environments and pH1 resistance": It surpasses it at no comparison being stable against acids up to -1pH and alkali.



Anti-neutron shielding and bullet proof: Vortexed Supercement is a superior neutron absorber and it is bullet proof.

Anti-corrosion and NO Volatile Organic Compound (VOC)-emissions: Vortexed Supercement is an ideal candidate in preventing corrosion on steel surfaces in pipelines and valves, being the next-generation-product preventing Corrosion Under



Insulation (CUI) at high-temperatures (up to 800°C). It offers excellent corrosion resistance and enhanced durability in reducing damage and allowing fast throughput. Being a 800°C high-temperature stable cement it has no VOC emissions.

Fire protection:

- 0.6mm of a Vortexed Supercement coating on wood will prevent it burning minutes long.
- 5mm of Vortexed Supercement coating on steel makes fire prevention F90 or F120.
- 30cm of Vortexed Supercement foam resist 2 hours on fire.

Graffiti & surfaces: Vortexed Supercement on mortar is washable @80 bar, but graffiti do not withstand it. Wall surfaces can be made lotus effect, anti-bacterial or photocatalytic self-cleaning. Its surface is either glassy or matt if polished.

Klima Haus: Pls consult the document "[Klima House Smart Home](#) "

Pipe fixing: Vortexed Supercement is super hard against abrasion, drinkable water approved, naturally shiny white. Bacterias are hardly sticking on. It is colored at will during mixing. Its surface is either glassy or matt if polished.

Vortexed Superfoam Sandwich: A sandwich of 2 outer layers of 3mm of fibre reinforced Vortexed Supercement and a core of 25cm of Vortexed Superfoam with density 0.6gr/cm³ reports unprecedented thermal and acoustic insulation and a 3 times stronger mechanical resistance if compared to equivalent cement-foam competitors. Integral home construction in Superfoam of Vortexed Supercement is now fully possible. Rebars or fiber are inserted. Certified valued to be published asap.

Winding concept of a floating tunnel-pipe: Please see the document published by our equipment supplier allowing [us to make any size of bionic pipes](#) out of Vortexed Supercement and Vortexed Superfoam while winding an any size floating tunnel segment (up to 30m length).

Service: We offer a service based upon a product which is footing on a very much ecologic technology. Vortexed Supercement is inert. There is NO plastic inside. We use pure 52,5 or 62,5 Portland cement or higher grade cement and quartz. The product is composed by in-house-built machines micronizing the cement in the water on the site, (it takes 2 minutes time for a run) key catalyzer, in house modified spray systems, foam system expanding the super-cement x10 or x20 times, pumping systems.

Properties of old Vortexed Supercement foam (up to pH2)

Development of a Vortexed Supercement foam with:

- density 0.1gr/cm³ to 1.2gr/cm³;
- 2N/mm² to >20N/mm² compression;
- high thermal insulation 0.03 to 0.3W/mK;
- (25cm thick) -42 to -52dB acoustic insulation;

- permeable to damp;
- impermeable to water above 0.8gr/cm³ ;
- pH2 resistant;
- 120 minutes fire resistant.

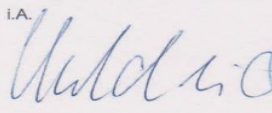
MPA BRAUNSCHWEIG
Seite 6 | Untersuchungsbericht Nr. (4193/521/14) – Wob vom 09.12.2014


ibmb MPA
TU BRAUNSCHWEIG


Tabelle 4: Trockenrohddichte

Probe	berechnete Wärmeleitfähigkeit [W/m*K]	Dichte [kg/m ³]
5	0,0341	122,8
6	0,0355	119,1
7	0,0336	125,7
8	0,0355	121,9
Mittelwert	0,0348	120,9

Braunschweig, 9. Dezember 2014

Der stellvertr. Fachgruppenleiter
i.A. 
Dr. Klaus Unterderweide

Der Sachbearbeiter
i.A. 
Dr. Matthias Wobst



New Vortexed Supercement Superfoam is naturally supersmooth glazy:



A gallery to Vortexed Supercement is shown in the following pages:

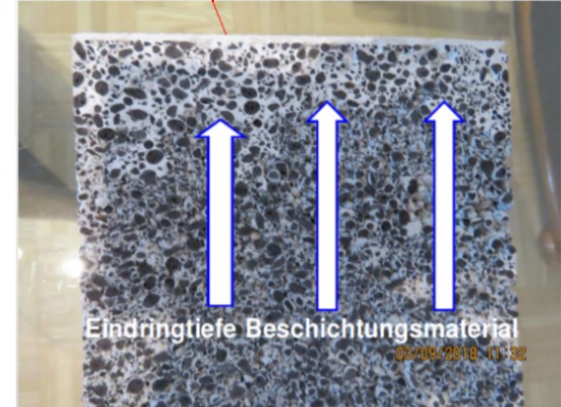
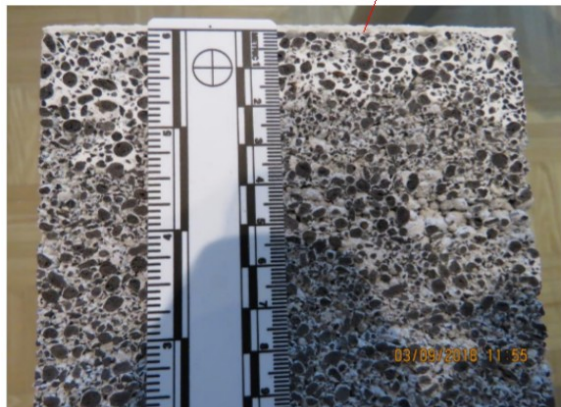
Vortexed Supercement with cork sandwich allows acoustic, fire and impact absorption. Vortexed Supercement's compression resistance can be tuned between 50, 105 and 300N/mm² at gluing force of max 5.1N/mm². The cement can be colored and it sticks to concrete, steel, fibreglas or wood. On steel it can be sprayed up to 5mm thick as F90 or F120. (It can last 90 or 120 minutes in fire)

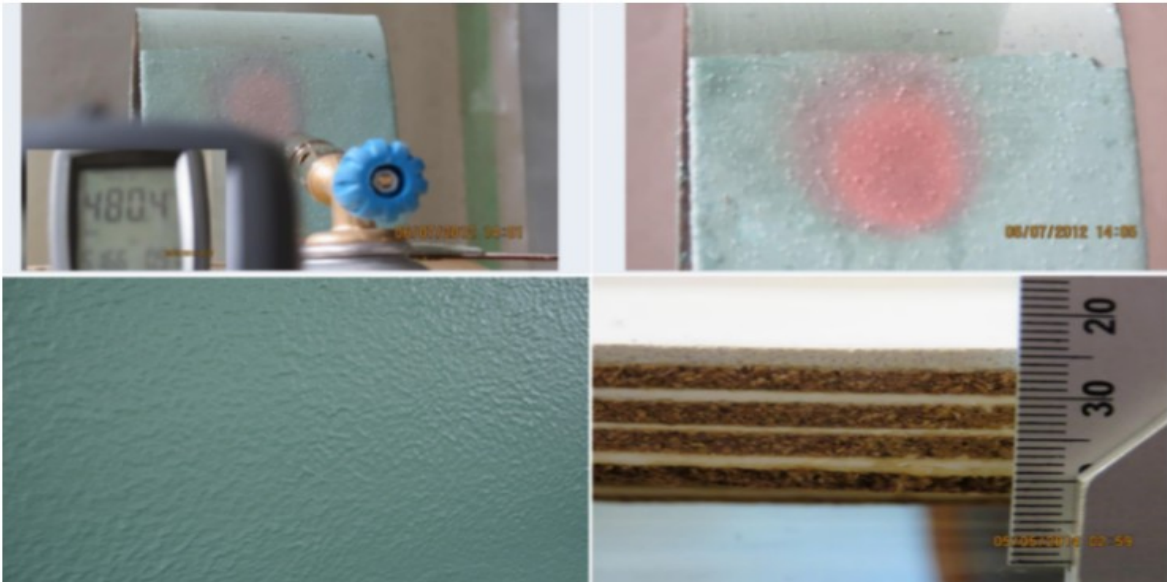


smallest Vortexed Supercement machine

← smallest Vortexed Supercement Foam generator

2mm thick coating by Vortexed Supercement @105N/mm²





fire proof coating

high resilience sandwich

antibacterial coating

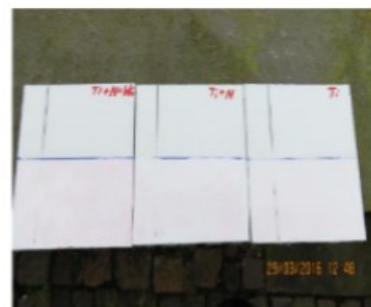
photocatalytic coating



Apposizione d'un colore a base organica alle 12:00



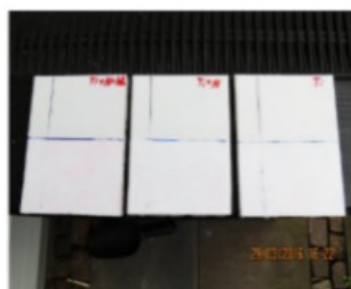
Condizione alle ore 12:08



Condizione alle ore 12:48



Condizione alle 13:06



Condizione alle 16:22

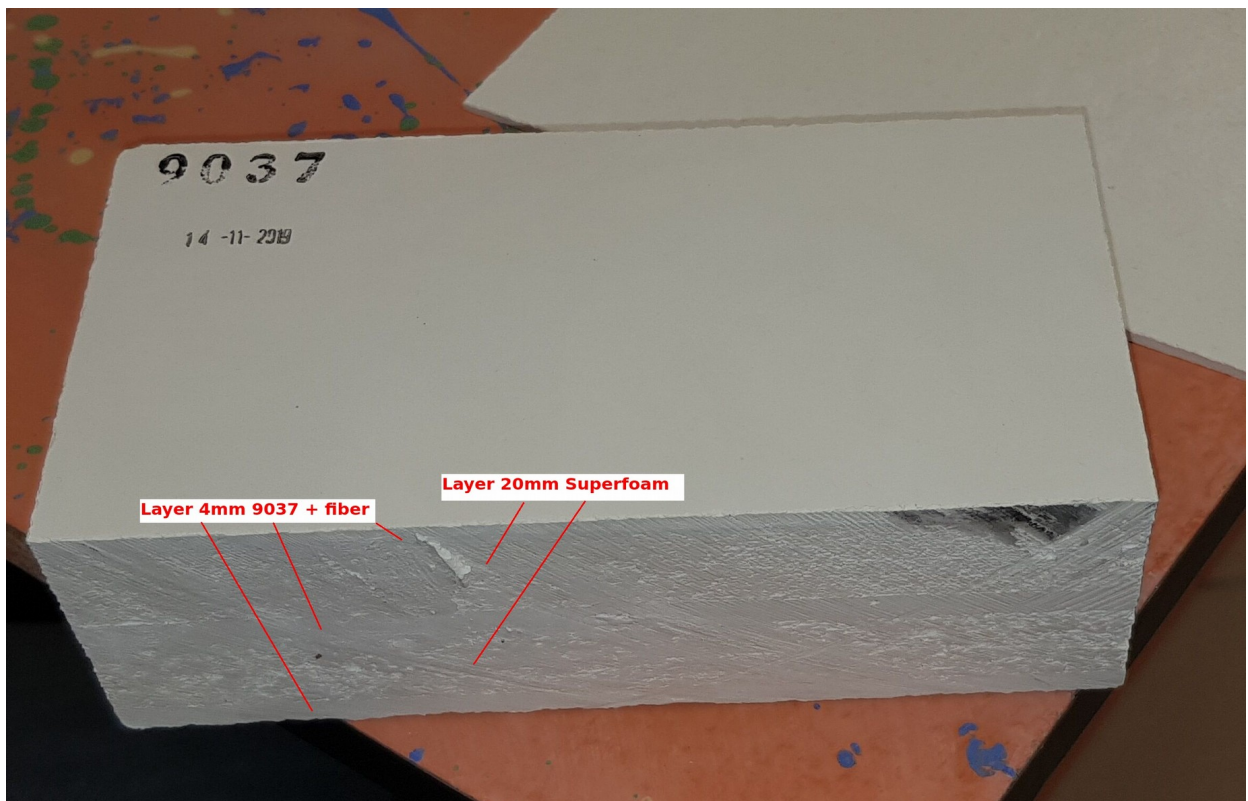


Condizione alle 17:50

The glue is Vortexed Supercement on a Superfoam substrate:



Sandwich in Superfoam and Vortexed Supercement:



Sandwich in Vortexed Supercement:



Vortexed Supercement as neutrons absorber:

KIT
Karlsruher Institut für Technologie

Sicherheit und Umwelt
Leiter: Dr. Gerhard Frank
Festkörperdosimetrielabor

Prüfberichts-Nummer: id2016M11-1

Ergebnisse der Auswertung
Results

Auslegeort	TLD-Nr.	Anzeige [Imp]	Messwerte	
			mittlere Anzeige [Imp]	Standardabweich. [%]
vorBetonprobe	2372	182986		
vorBetonprobe	2373	193583		
vorBetonprobe	2374	196851		
vorBetonprobe	2375	194329		
vorBetonprobe	2376	194777		
vorBetonprobe	2377	192914		
vorBetonprobe	2378	188302		
vorBetonprobe	2379	190253		
vorBetonprobe	2380	190731		
vorBetonprobe	2381	186073	191080	2,2
hinterBetonprobe	2382	107560		
hinterBetonprobe	2383	107278		
hinterBetonprobe	2384	104094		
hinterBetonprobe	2385	105305		
hinterBetonprobe	2386	104148		
hinterBetonprobe	2387	104984		
hinterBetonprobe	2388	103911		
hinterBetonprobe	2389	102302		
hinterBetonprobe	2390	103660		
hinterBetonprobe	2391	103546	104679	1,6

Der Abschirmfaktor der Betonprobe vom 13.10.16, 240 cm², 941 g und einer Dicke von 2,5 cm beträgt 55%

Vortexed Supercement is bullet proof:

Shaping at will a massive Vortexed Supercement armoring slab withstanding Dragunov's shootings:

Shaping it



*Left: The shot through;
concrete panel 55mm*

*Right: no penetration
concrete panel 45mm*

to the right

shoots went in 28 mm
only

weight to the plate:
78Kg/m²



Properties and Certifications to Vortexed Supercement:

penetration of water @5 bar	Low Pressure coating 5mm thick max 1.2mm deep	TBR Bernburg
drinkable water	0.5 up to 5.0mm thick/ Ja/yes	National Institute of Public Health PL
highest compression 24h	0.5mm thick 27N/mm ²	MVPA Neuwied
48h	46N/mm ²	MVPA Neuwied
28 Tage/days	50N/mm ²	MVPA Neuwied
highest compression 24h	Low Pressure coating 5mm thick 27N/mm ²	MVPA Neuwied
48h	48N/mm ²	MVPA Neuwied
28 Tage/days	>100N/mm ²	MVPA Neuwied
bending resistance	Low Pressure coating 5mm thick @27N/mm ²	MVPA Neuwied
carbonation	/Low Pressure 5mm thick no aggression	MPA NRW
34% more resistant than XA3 class	Low Pressure 5mm thick 1pH chloridic acid Ja/yes	MVPA Neuwied
low permeability against oil, fats, Diesel	Low Pressure 5mm thick 2.5 times better than FD-concrete	MVPA Neuwied
saltwater freezing cycles	Low Pressure 5mm thick no aggression after 56 cycles	TBR Bernburg
bacterial killing properties	yes on all surfaces	Prof.Dr.Marc Boelhauve Fachhochschule Südwestfalen
highest CO2 barrier	Low Pressure 5mm thick 1.2mm in 60 years	MVPA Neuwied
anti wearingout of surfaces	Low Pressure 5mm thick 3.24 cm ³ /50cm ² (Böhme) tailored	MVPA Neuwied
Vapor diffusion	0,2-5.0mm/0.2 to 5.0mm yes	MVPA Neuwied
Neutronabsorber	2,5 cm thickness are equal to concrete: 2,5m	KIT
mud to steel smelters dust's	5mm thickness no leaching out	Martin Luther Halle
fireprotection -wood	(...)	
-steel	(...)	
foam 1.2gr/cm ³	compression (...) and (...) W/mK	
foam 0.1gr/cm ³	0,0348W/mK / 0,120g/cm ³	IBMB MP
bond strength on concrete	2,4 N/mm ²	MVPA Neuwied
bond strength on steel	3,8 N/mm ²	MVPA Neuwied

VIDEOS:

Fibre1 with Vortexed Supercement:

Fibre 2 with Vortexed Supercement:

Fireproof

High Pressure Coating 0,6 mm upon Styropor:

10 minutes @ 1000°C 4 videos:

Foam

Foam in 0.4gr/cm³ density 2 videos:

Hammering upon steel 2 videos

the approximated thickness to the High Pressure coating is 0,3 mm:

Rubbing on it:

90° and 180°bending:

100% acetic acid stable (-1pH):

Airless's coating

Spray control samples in High Pressure upon metal shingles:

Low pressure's coating

Spray control samples in Low Pressure upon metal shingles:

Your Swiss Team
SSBC-CACH SA
ssbc-cach.com