

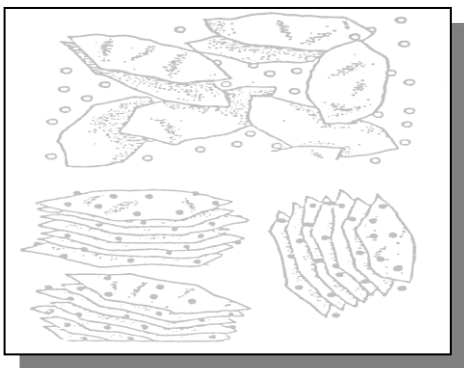
AGB White bentonites for ceramic

Description

AGB range of products are based on extremely pure and white bentonites, selected to give the best performance when used as additive in ceramic glazes and engobes. The special process on raw material makes **AGB** able to improve glaze slip stability and reducing crack tendency.

Montmorillonite

Bentonite, or montmorillonite, is a mineral of the smectite family characterised by a lamellar crystalline structure. Once the lamellas of montmorillonite, which are distributed in platelets and held together by Van der Waals forces, have been dispersed in water, they can create a specific surface of 800 m²/g. One lamella of montmorillonite has a high negative charge on the surface and a positive charge at the edges due to the isomorphous substitution of aluminium with magnesium ions and silicon with aluminium ions. Thanks to its very high specific surface **AGB** reach a fully dispersion in ceramic glazes. Full dispersion means high effectiveness at low dosages.



Advantages

AGB products give synergistic action with carboxymethylcellulose (CMC), commonly used in glazes.

CMC is used as a binder and allows the glaze to flow smoothly. Using **AGB** products we can reduce the amount on CMC with improvement in stability of suspension and reducing in crack tendency and economical benefits. In raw glazes or fritted glazes **AGB** improve the glaze adhesion.

Benefits

The benefit in using of **AGB** are the following:

- Improvements in suspending effect
- Reducing in crack tendency
- Improving in glaze adhesion
- Reduction of formulation cost

Use and dosages

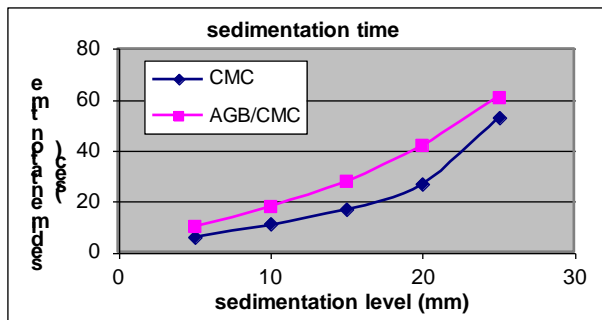
AGB can be added together with raw material to the dosage of about 0.5 – 1%.

The graph. below shows the sedimentation time of a suspension of quartz (120 DIN of fineness) in water.

The suspending effect was provided by

- a) CMC 0,3 %
- b) CMC 0,1 % + AGB P1 0,8%

Was measured the sedimentation time to reach some fixed point of sedimentation level. We can see that using CMC alone the sedimentation was faster than using a mix of **AGB** and CMC.



Chemical-physical characteristics (typical value):					
		AGB P4	AGB P1	AGB P11	AGB P10
Swelling	[ml/2g]	25-28	30-35	15-25	30
Blue metilene adsorbing	[mg/g]	265	380	330	295
Colour (Hunterlab)	L	83.5	87.2	92	93.8
	a	-0.9	-1.6	0.4	-0.1
	b	9.7	7.3	4.8	1.6
Residue on 75 µm	[%]	max 10			

Chemical analysis (typical) (XRF) [%]				
	AGB P4	AGB P1	AGB P11	AGB P10
Na ₂ O	2,61	3,2	1,64	2,20
MgO	2,67	2,6	3,56	3,42
Al ₂ O ₃	13,58	23,36	14,77	11,98
SiO ₂	71,66	58,61	67,78	74,62
P ₂ O ₅	0,01	0,03	0,02	0,01
K ₂ O	0,82	0,94	0,49	0,55
CaO	1,14	1,19	3,00	0,67
TiO ₂	0,23	0,19	0,14	0,11
MnO	0,03	0,01	0,07	0,01
Fe ₂ O ₃	1,99	2,62	1,44	0,25
LOI (930°C)	5,26	7,3	7,07	6,18

Packaging

AGB is available in 25 kg paper bags, big bags of 500-1.000 kg, in bulk (silo trucks or bulk-containers).

Storage

The product must be stored in dry place. Very high moisture or contact with water can damage the products. The product stored in bulk, when in contact with atmosphere, could increase its moisture.

Technical assistance

Our technical department and area sales managers are at your disposal for any question concerning the use of our products to improve effectiveness of ceramic process and value of customers' products.

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Information given in this bulletin is based on the state of our knowledge at the date of publication and are believed to be accurate, but do not constitute any engagement or warranty from our part. Buyers and users should make their own assessments under their own conditions and for their own requirements. Information may be changed without any notice. For mandatory characteristics and performance please refer to our Sale Specifications.

