



LAVIOSA
Advanced Mineral Solutions

Laviosa Chimica Mineraria Spa

Products presentation

05/10/2010

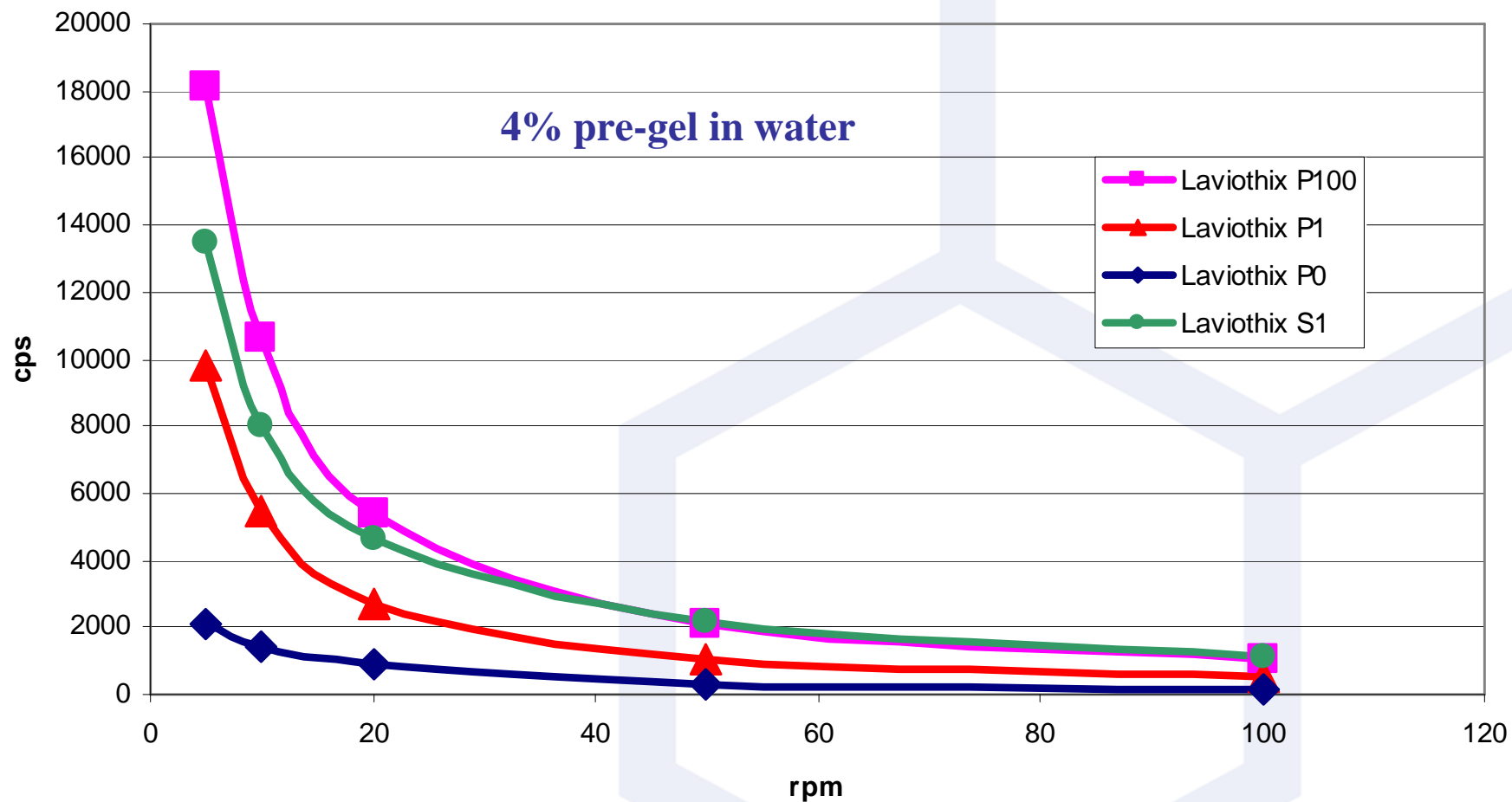
LAVIOTHIX[®]

- this is a range of rheological additive family suitable for water based systems
- this is both a thickening, thixotropic and antisetling agent, inorganic in origin, based on a selected, purified activated and also modified clay



LAVIOTHIX[®] performance is strictly correlated to its hydration capacity and to the possibility to develop micron and submicron sized particles in dispersion, with an high specific surface area.

	Laviothix [®] P0	Laviothix [®] P1	Laviothix [®] P100	Laviothix [®] S1	Laviothix [®] SE
Composition	activated clay	activated clay	activated clay	hydrated silicate	modified silicate
Colour	white	white	white	light beige	light beige
Form	powder	powder	powder	fluid powder	fluid powder
Bulk density g/ml	0.9-1.0	0.9-1.0	0.9-1.0	0.1-0.2	0.1-0.3
Swelling (ml/2g)	30	40	45	20	22
anti-settling effect	high	high	high	high	high
anti-sagging	medium	medium	high	high	high
pH stability	medium	medium	high	not influenced	not influenced
typical dosage %	0.5-5%	0.5-5%	0.3-3%	0.5-2%	0.3-1%
incorporation	As pregel or direct addition-high shear	As pregel or direct addition-high shear	As pregel or direct addition-low or high shear	As pregel or direct addition-high shear	As pregel or direct addition-high shear



Incorporation of LAVIOTHIX[®] P0, P1 and P100

1. Slowly add LAVIOTHIX[®] and increase shear rate to maximum amount which may be tolerated in the mixing container. Incorporates more quickly in warm water. However, do not allow water temperature to rise above 50° C prior to full hydration. Once hydration has occurred, there is no temperature limitation for LAVIOTHIX[®]
2. Continue to disperse until a constant viscosity is reached (15-30 min)
3. Add other formula ingredients in appropriate order

Reccomendation

The viscosity of the slurry could rise during time after the preparation, it's better to measure viscosity the day after

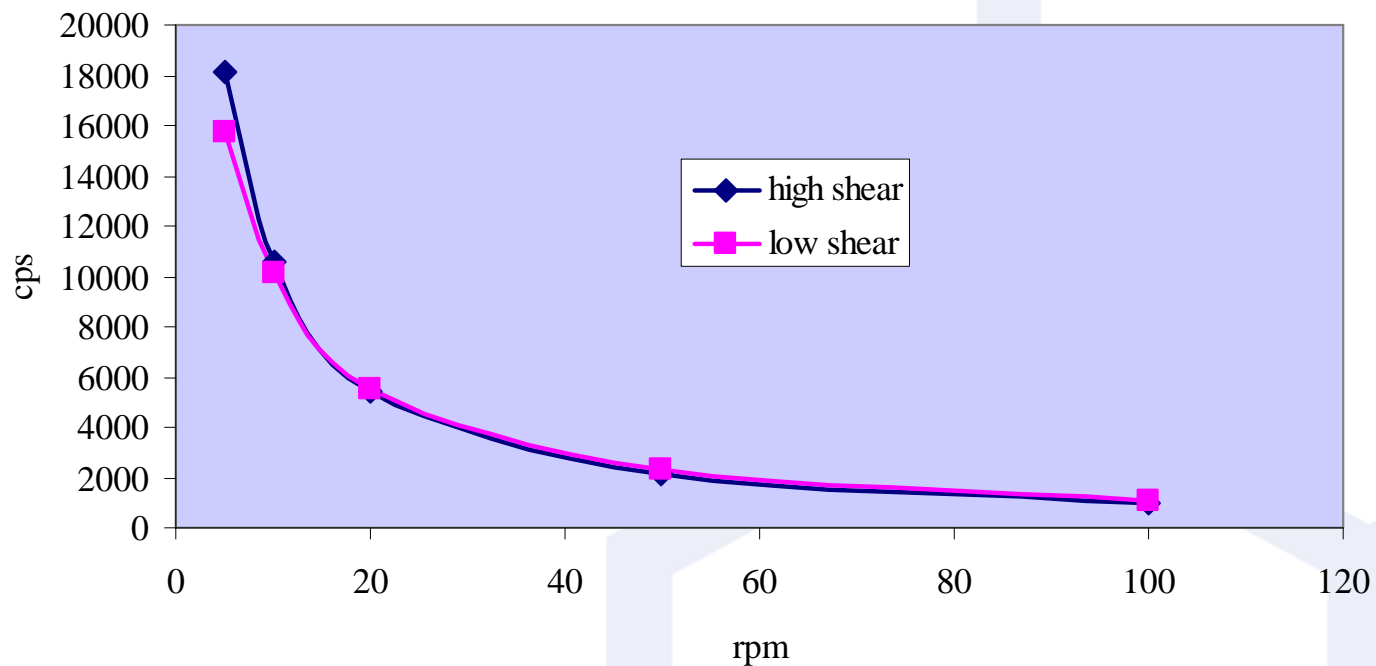
Incorporation of LAVIOTHIX[®] S1 and SE

- They don't need to swell overnight but they can directly added once pre-gel is made.
- They need high shear for incorporation

Why to use LAVIOTHIX[®] in waterborne coating?

- Reduce usage of current cellulosic thixotrope (30%)
- Totally replace of current mineral thixotrope
- Enzyme resistance
- Temperature resistance
- pH resistance until very high value

	Laviothix [®] P0	Laviothix [®] P1	Laviothix [®] P100	Laviothix [®] S1	Laviothix [®] SE
emulsion paints	suitable	good	good	good	good
epoxy system	-	-	-	-	good
acrylic system	-	suitable	good	suitable	good
sealant	-	-	suitable	good	-
foundry coating	good	suitable	good	suitable	good
architectural coating	suitable	suitable	good	suitable	good
impregnation wood product	good	suitable	-	-	-
antisagging in wood opaque	-	suitable	good	-	-



LAVIOTHIX[®] P100 shows the same gel formation properties using either a high shear or a low shear

LAVIOTHIX[®] application in wood coating

1. Impregnant

25% resin
1% coalescent
67% H₂O
3% slurry bentonite o bentone 4%
4% iron oxide

2. Pigmented coating

Typical veicol's formulation:

25% H₂O
6% wetting agent
20% talco
20% CaCO₃
29% TiO₂

Typical pigmenting coating formulation:

25% veicol
3% tixotropic agent
65% resin
7% other

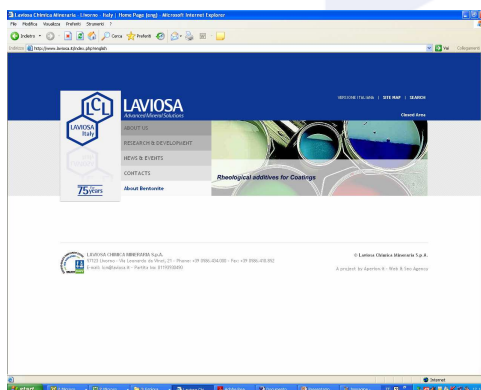
CONCLUSION

LAVIOTHIX® P0 can be used in impregnation product formulation with very good performances of antisetling and levelling to replace Bentone EW.

LAVIOTHIX® P100 in white and pigmented opaque topcoat shows the same performances of antisagging and antisetling as Bentone EW and it can be also a good alternative to the associative polyurethane thickening

End of presentation

Thanks for your attention!



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