BASF
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Melflux® SELECT 5731 F

High performance superplasticizer optimized for self-levelling underlayments (SLUs) and flowing floor screeds containing calcium sulphoaluminate cements (CSA)

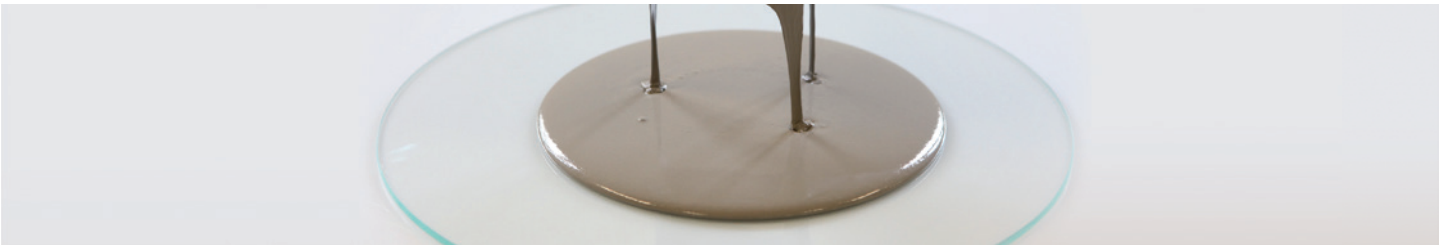
What is Melflux® SELECT 5731 F?

Melflux® SELECT 5731 F is a spray dried powder of a modified polycarboxylic ether (PCE) specialized for ternary binders containing calcium sulphoaluminate cements (CSA). The type of CSA used in the formulation can either be a clinker without additional sulphate (CSA clinker) or a sulphated cement (CSA cement) as shown in the table.

Note: **Melflux® SELECT** grades are tailored superplasticizers specialized for specific binder compositions

In combination **Melflux® SELECT 5731 F** and tartaric acid as retarder provide good flow and long workability in systems containing any source of CSA with excellent development of early strength.

Dos. (%)	Dos. (%)	Raw Material	Supplier
16.00	13.00	Ordinary Portland cement	various suppliers
11.50	–	CSA clinker (CSA 1)	
–	17.00	CSA cement (CSA 2)	
5.00	2.50	Anhydrite	
0.20	0.20	Calcium hydroxide	
57.36	57.36	Quartz sand (0.1 – 0.3 mm)	
8.50	8.50	Limestone powder (10 – 20 µm)	
1.00	1.00	Redispersible latex powder	
0.05	0.05	Lithium carbonate	
0.06	0.06	Tartaric acid (retarder)	
0.20	**0.20**	**Melflux® SELECT 5731 F**	**BASF**
0.08	**0.08**	**Starvis® 3040 F**	
0.05	**0.05**	**Vinapor® DF 9010 F**	
100.00	**100.00**	**DRY MORTAR (TOTAL)**	
		Mixing water: 20 – 22%	



Fields of application of ternary binder compositions with CSA

Ternary binder compositions are typically used for the production of flowing floor screeds and self-levelling underlayments (SLUs). They usually consist of a mixture of Ordinary Portland Cement (OPC), High Alumina Cement (HAC) and a sulphate source. CSA cement due to its similar chemical and mineralogical composition is an alternative to HAC cement in such formulations. Ternary binder formulations containing CSA are characterized by a fast and early strength development, a high level of final compressive strength and water resistance.

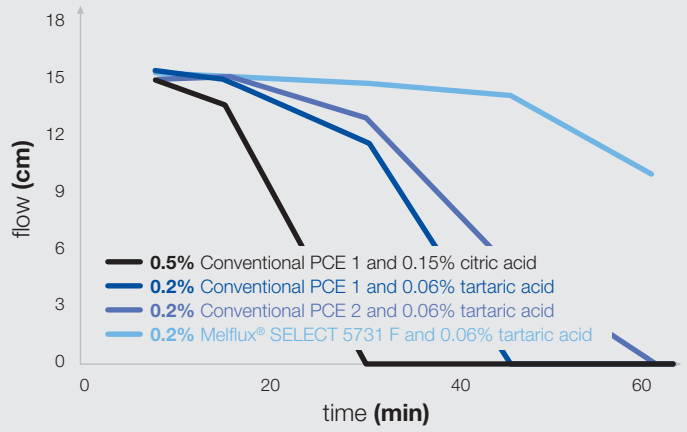
What features and benefits can be achieved?

Features	Benefits
▶ CSA clinker or cement as a replacement for HAC	▶ Cheap and robust binder composition for SLU ▶ More environmentally friendly
▶ Specific dispersing effect of **Melflux® SELECT 5731 F**	▶ Very good initial flow and slump retention ▶ Easy to adjust ▶ High efficiency ▶ Working with different types of CSA
▶ Very low VOC emission	▶ **Melflux® SELECT 5731 F** is useful for EMICODE® EC 1 plus standard

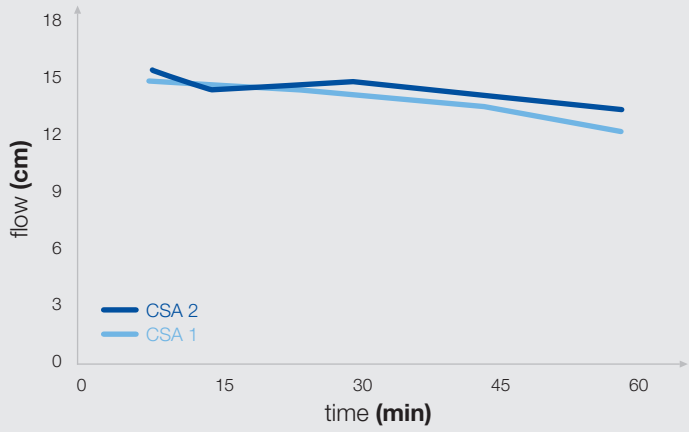
Advantages of Melflux® SELECT 5731 F in a ternary binder system containing CSA

A conventional PCE in combination with citric acid leads to a strong slump loss in ternary binder formulations based on CSA cement. If tartaric acid is used instead of citric acid, only a small improvement of rheology is observed. **Melflux® SELECT 5731 F** in combination with tartaric acid provides adjustable workability with excellent slump retention. The formulation concept with **Melflux® SELECT 5731 F** is robust in terms of different CSA types. The strong reaction of CSA with Portland cement leads to a very high early strength. The final strength is comparable to ternary binder formulations based on high amount of HAC.

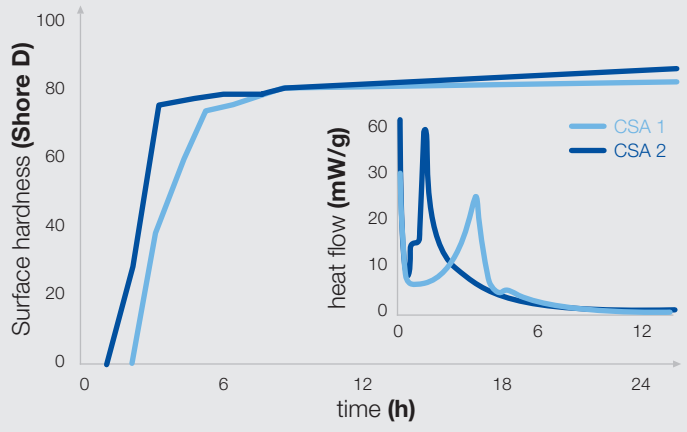
Best superplasticizer for CSA based systems



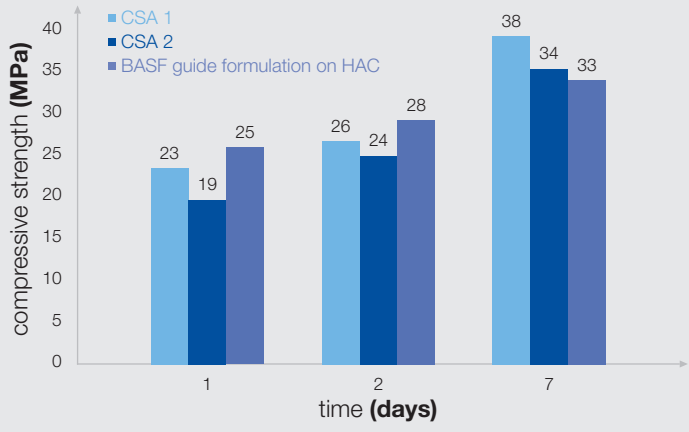
Good slump retention with different CSA



Strong early strength development



Same strength as HAC based ternary binder



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