

Melflux[®] SELECT 5691 F

HyCon[®] R 7200 F

High performance superplasticizer providing outstanding temperature robustness for self-levelling underlayments (SLUs) based on classical ternary binder compositions

What are Melflux[®] SELECT 5691 F and HyCon[®] R 7200 F ?

Melflux[®] SELECT 5691 F is a spray dried powder of a modified polycarboxylic ether (PCE) specialized for binary binder compositions. Hemihydrate rich binary binder compositions are defined as combinations of calcium sulphate hemihydrate (main binder) and Portland cement (s. table).

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

HyCon[®] R 7200 F is especially optimized for retardation of setting of binary binder compositions. In combination **Melflux[®] SELECT 5691 F** and **HyCon[®] R 7200 F** provide long workability with excellent development of early strength.

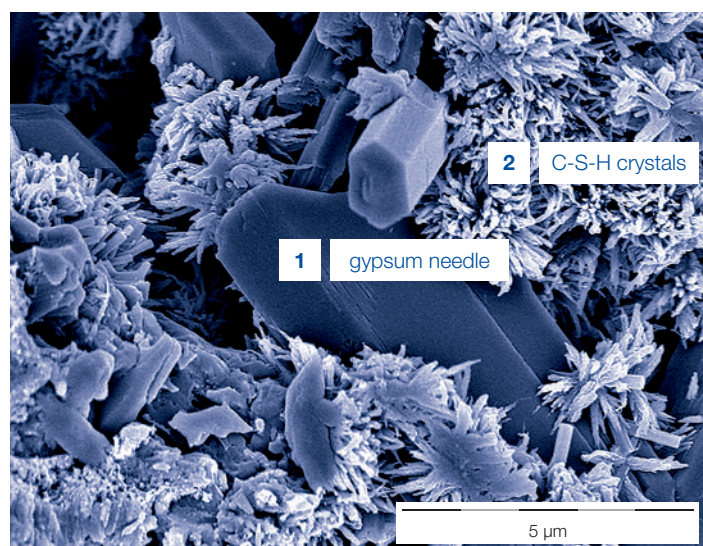
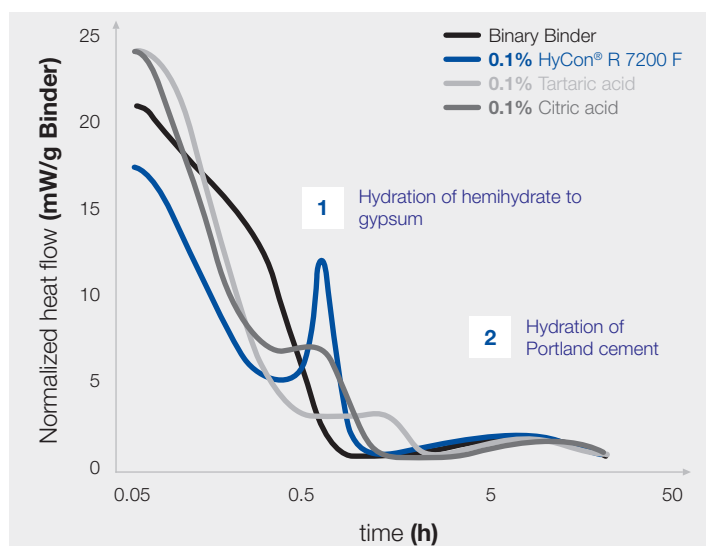
Dos. (%)	Dos. (%)	Raw Material	Supplier
7.30	7.30	Ordinary Portland cement	various suppliers
29.20	–	Alpha-hemihydrate	
–	29.20	Beta-hemihydrate	
42.22	41.85	Quartz sand (0.1 – 0.3 mm)	
20.00	20.00	Limestone powder (10 – 20 µm)	
1.00	1.00	Redispersible latex powder	BASF
0.15	0.50	Melflux[®] SELECT 5691 F	
0.06	0.04	Starvis[®] 3040 F	
0.05	0.05	Vinapor[®] DF 9010 F	
0.02	0.06	HyCon[®] R 7200 F	
100.00	100.00	DRY MORTAR (TOTAL)	
		Mixing water: 20 – 22%	

Fields of application and benefits of binary binder compositions

Binary binder compositions are typically used for the production of flowing floor screeds and self-levelling underlayments (SLUs). Compared to calcium sulphate based single binders, binary binder compositions are characterized by a higher level of final compressive strength and water resistance. In addition, the strength development of binary binder compositions is very robust towards deviations of temperature.

Hydration kinetics of binary binder compositions and benefits of HyCon[®] R 7200 F

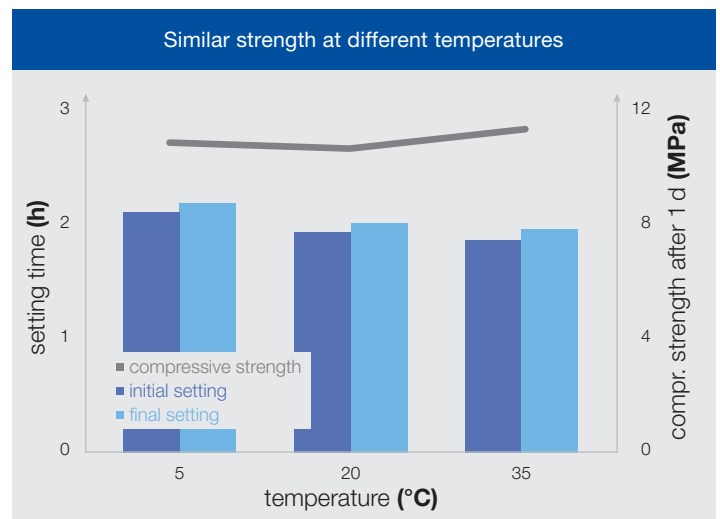
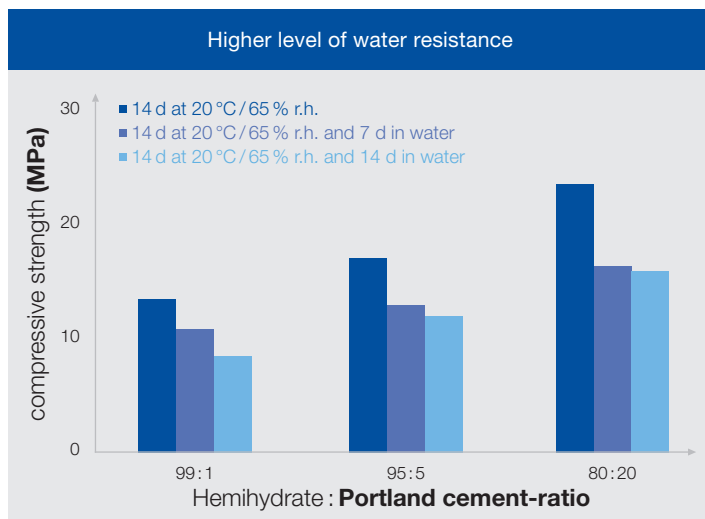
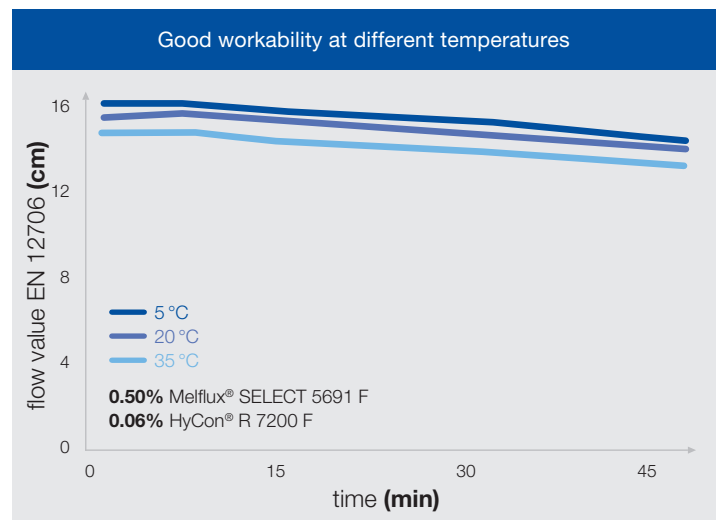
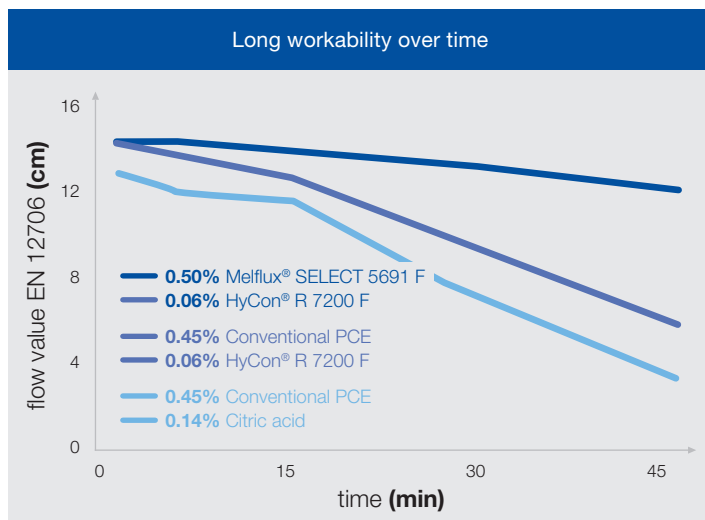
The heat flow of binary binder compositions during hydration shows two maxima. The first maximum can be assigned to the hydration of hemihydrate to gypsum, while the second maximum is related to the heat release during the hydration of Portland cement. In contrast to commonly used setting retarders like fruit acids, **HyCon[®] R 7200 F** retards the reaction of hemihydrate to gypsum selectively, without a retarding effect on the subsequent reaction of the Portland cement which leads to higher early strength.



Advantages of Melflux® SELECT 5691 F and HyCon® R 7200 F

In combination **Melflux® SELECT 5691 F** and **HyCon® R 7200 F** provide adjustable workability with excellent slump retention. Subsequent hydration of hemihydrate and Portland cement lead to a high early and final strength. The hydration products of both binders are highly interlocked and therefore provide a good compressive strength and water resistance when binary compositions get in contact with water.

Features	Benefits
▶ Binary binder compositions: Hemihydrate as main binder and Portland cement as secondary binder	▶ Cheap and robust binder composition for SLU
▶ Melflux® SELECT 5691 F	▶ Very robust towards temperature deviations and high level of water resistance
▶ HyCon® R 7200 F	▶ Individual adjustment of workability and setting times
▶ Specific dispersing effect (Melflux® SELECT 5691 F)	▶ Constant flow values over a long period of time
▶ Selective retardation of the hydration of hemihydrate to gypsum (HyCon® R 7200 F)	▶ High robustness against binder deviations
▶ Very low VOC emission	▶ No retardation of cement hydration
	▶ Excellent early and final strength
	▶ Both additives are useful for EMICODE® EC 1 standard



Further information (test formulations and further test results) is available on demand. Please feel free to contact our local sales representatives.

This information and all further technical advice are based on our current knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether expressed or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of goods. Performance and suitability of the product described herein have to be verified by testing, which has to be carried out only by qualified experts in the sole responsibility of the customer. Reference to trade names used by other companies is neither a recommendation nor an implementation that similar products could not be used. The customer is obliged to keep the disclosed samples and any related information under strict confidence and shall neither analyze such samples nor disclose them to third parties. In addition our general terms and conditions for sale are valid. This technical note is valid until replaced by a new issue. ® = Registered trademark ™ = Trademark of the BASF Group, unless otherwise noted (11/2019)