

PENTARAPID CR 1003

Setting accelerator for Portland and composite cements

Technical Data Sheet: May 2026

DESCRIPTION	Pentarapid CR 1003 is a set accelerator in powder form, made of a mixture of organic and inorganic salts, that allows the control of setting and hardening times in all mixtures containing Portland cement, composite cements, and mixtures of Portland and sulfoaluminate cements.	
FEATURES	Pentarapid CR1003 is specifically formulated for systems based on Portland cement, composite cements, and Portland/sulfoaluminate cement blends, and is designed to regulate and optimize setting times and the development of early strength. The product works by accelerating the hydration kinetics of the main clinker phases, particularly tricalcium aluminate (C_3A) and tricalcium silicate (C_3S), thereby promoting the more rapid formation of hydration products and the initial crystalline structure of the cement matrix. The additive significantly reduces initial and final setting times and rapidly increases mechanical strength within the first few hours of curing, without adversely affecting the final strength after long-term seasoning or the stability of the cured system. The open time of the resulting mixtures can be adjusted by adding the specific powdered retarders like Pentatard AC and Pentatard AT.	
USE	Pentarapid CR 1003 is typically used to control the setting and hardening times of mixtures containing Portland cement and sulfoaluminate cement, such as rapid-setting cements, rapid-setting mortars, controlled-setting mortars, injection and consolidation mortars, spritz beton, flowable mortars, rapid-setting adhesives, and bonding mortars. It can also be used in formulations made exclusively with Portland cement or composite cements.	
TECHNICAL DATA	Data	Method
	Composition:	Mixture of organic and inorganic salts
	State:	Powder Visual
	Colour:	White Visual
	Bulk density:	$0.650 \pm 0.100 \text{ g/cm}^3$ IST. 10.07
	Particle size:	Min. 95% < 0.180 mm IST. 10.09
	Humidity:	Max 7.00% IST. 10.04
	Solubility:	Partially soluble IST. 10.21
	pH:	$11,0 \div 12,0$ IST. 10.05
DOSAGE	The recommended dosage ranges from 0.10% to 1.00% of the total mortar volume. Dosages other than those recommended may be used depending on specific requirements, following experimental determination.	
STORAGE AND VALIDITY	When stored in a cool, dry place in the original, tightly sealed bags, the product has a shelf life of 12 months from the date on the shipping document. We advise you to carefully reseal the bags after each use.	
PRECAUTIONS	Before use, please read the corresponding safety data sheet.	
PACKAGING	25-kgs paper bags	

All the data stated in this technical sheet is based on the best of our knowledge and experience. It is advisable to carry out preventive tests. In any case, PENTACHEM does not assume any responsibility for any damage or defect caused by the use of our products, as the employment conditions are not under our control. We also inform that our technical service is at our customers' disposal for any information concerning the correct employment of our products.