

MANUFACTURER

NANVERA Advanced Materials

PRODUCT CODE (SKU)

KL-019 — NANCEMENTO

REVISION DATE

May 2026 / Rev. 01

1. Product Description & Engineering Mechanism

NANCEMENTO is an advanced nano-polymer cementitious additive that combines the physics of Nano Rubber technology with cementitious matrices to deliver a high-performance waterproofing and finishing system. It serves as a flexible alternative to rigid, high-hardness polymers that crack under expansion/contraction stress and delaminate on exposure to moisture and water.

Mechanism of Action: nano-silica and nano-rubber particles react with the calcium hydroxide released during cement hydration, forming "nano-roots" inside the concrete's capillary channels and creating a dense, fully waterproof microstructure.

Self-Leveling Additive: functions as a super-plasticizing dispersant that enables self-compaction of the mortar without mechanical vibration and delivers precise surface leveling.

1:1 Hybrid Microcement System: has the unique ability to convert into a high-hardness microcement when mixed 1:1 by weight with white cement, achieving mechanical strength comparable to natural marble. Thanks to its flexible nanoparticles, NANCEMENTO transforms microcement into nanocement - its particles penetrate the pores of the microcement, raising its resistance to permeability, moisture and abrasion.

Hydrostatic Pressure Management: thanks to Nano Rubber technology, the product effectively manages both positive and negative moisture pressure; its molecular flexibility prevents cracking caused by salt attack or rising capillary moisture.

3. Approved Engineering Application Systems

Liquid State (No Cement): in its liquid form, without the addition of cement, and thanks to its high flexibility, NANCEMENTO gives surfaces superior protection against abrasion, moisture and cracking.

Microcement System: mixed with white cement at a 1:1 ratio by weight using a low-speed mechanical mixer to ensure homogeneity and prevent air entrapment, forming a high mechanical strength finishing layer.

Self-Compacting Additive System: used to improve the flowability of structural mortar while reducing the water/cement (W/C) ratio to a practically minimum level, achieving self-compaction without mechanical vibration.

Direct Anti-Seepage Primer System: applied as a primer coat diluted 50% with water to seal capillary channels and ensure the formation of "nano-roots" before proceeding with the structural layers.

4. Surface Preparation, Consumption & Application

Surface Preparation: carry out a relative humidity test. Mechanically clean the substrate of cement laitance and open the capillary pores to allow "nano-root" formation (Test Method: ASTM F2170).

Application Rate: from 500 microns/coat (depending on the substrate).

Mixing Equipment: low-speed mechanical mixer.

5. Packaging & Storage

Packaging: supplied in 10 L pails (for precision and local works) and 20 L industrial pails (for large-scale and national projects), reducing logistical losses by up to 15%.

Storage & Shelf Life: store in original, sealed containers in a dry place (+5°C to +35°C), away from direct UV exposure to prevent polymer degradation. Shelf life is 12 months from the date of production.

2. Technical & Physical Properties

Property	Value	Test Method
Density	1.5 g/cm ³	ASTM D1475
Solids Content	72% ± 1%	ASTM D1644
Mixing Ratio (Microcement System)	1:1 by weight with white cement	—
Bond Strength	≤ 1.6 MPa	ASTM D4541
Water Permeability	Class W3 - absolute resistance	EN 1062-3
Water Vapor Permeability	High resistance to water vapor penetration	ASTM E96
Abrasion Resistance	Weight loss < 0.5 g - CS-17, 1000 cycles	ASTM D4060

Legal Disclaimer

The data provided is based on extensive laboratory testing and field experience. Since application conditions are beyond the manufacturer's control, KEMT CASTELLO guarantees only the consistent quality of the product itself. A trial mock-up on site prior to large-scale application is strongly recommended.