



/ ALUMINA DISPERSIONS FOR COOKWARE

Fine grained alpha-alumina particles are used to increase wear-resistance and enhance the anti-stick effect of protective ceramic coatings in cookware. Due to its high chemical purity, NOVOGARD® is highly suitable for food-contact, making it the perfect solution for alkoxy-silane formulations.

NOVOGARD® CDA A50

- 50% alpha-Alumina dispersed in water
- Mean particle size < 0.22 µm and d90 < 0.45 µm
- High chemical purity > 99.9 % makes the product suitable for food-contact
- High hardness (Mohs 9.0) due to alpha-Alumina
- Stable dispersion with low settling behavior



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NOVOGARD® / Alumina for industrial applications



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/ INTRODUCTION

Corundum has an extremely high Mohs-hardness of 9.0 and has been used for decades to treat different surfaces in processes such as grinding, lapping and polishing. Using a special production process, the NOVOGARD® range offers Corundum products with specific properties for broad applications in polishing. NOVOGARD® products can be used for materials like ceramic glass, ceramic, glass, plastic, sapphire, automotive coatings and metal.

/ BENEFITS

- High chemical purity
- Polycrystalline particles with defined grain-structures (d50 between 0.02 -1.0 µm)
- Self-sharpening effects during the polishing application
- Excellent finish properties (mirror applications)

/ INDUSTRIAL POLISHING APPLICATIONS

NOVOGARD® suspensions can be used directly or further diluted with water. NOVOGARD® powders are easy dispersible in water, lubricants, emulsions and pastes. We recommend using about 10-20 % of dry contents for these purposes.

APPLICATION	BRIEF DESCRIPTION
High Abrasion Rate	The NOVOGARD® CDA C50HA suspension is our product for a variety of applications with high abrasion rate.
Medium Abrasion Rate	NOVOGARD® CDM 10 is our standard product for a variety of applications with medium abrasion rate for mirror finishes.
“Finish”- Application with Low Abrasion Rate	NOVOGARD® CDA A50 and NOVOGARD® CDA C50 suspensions are highly recommended. They should be diluted to 10-20 wt-% solid by adding water.
Combination	Blending NOVOGARD® CDM 10 powder with our NOVOGARD® suspensions can create polishing solutions with high abrasion rates and very low residual roughness. The optimal composition is most often between 5-10 wt-%.

/ CERAMIC INK FORMULATIONS

NOVOGARD® alumina particles are used in ceramic ink formulations to increase the wear resistance of these inks. Used widely for ceramic tile printing, these ink formulations require raw-materials with low particle size due to the demanding printing process. With our special production process, NOVOGARD® powder comes in the form of small crystals in combination with soft agglomerates. Fully deagglomerated aqueous suspensions are also available.



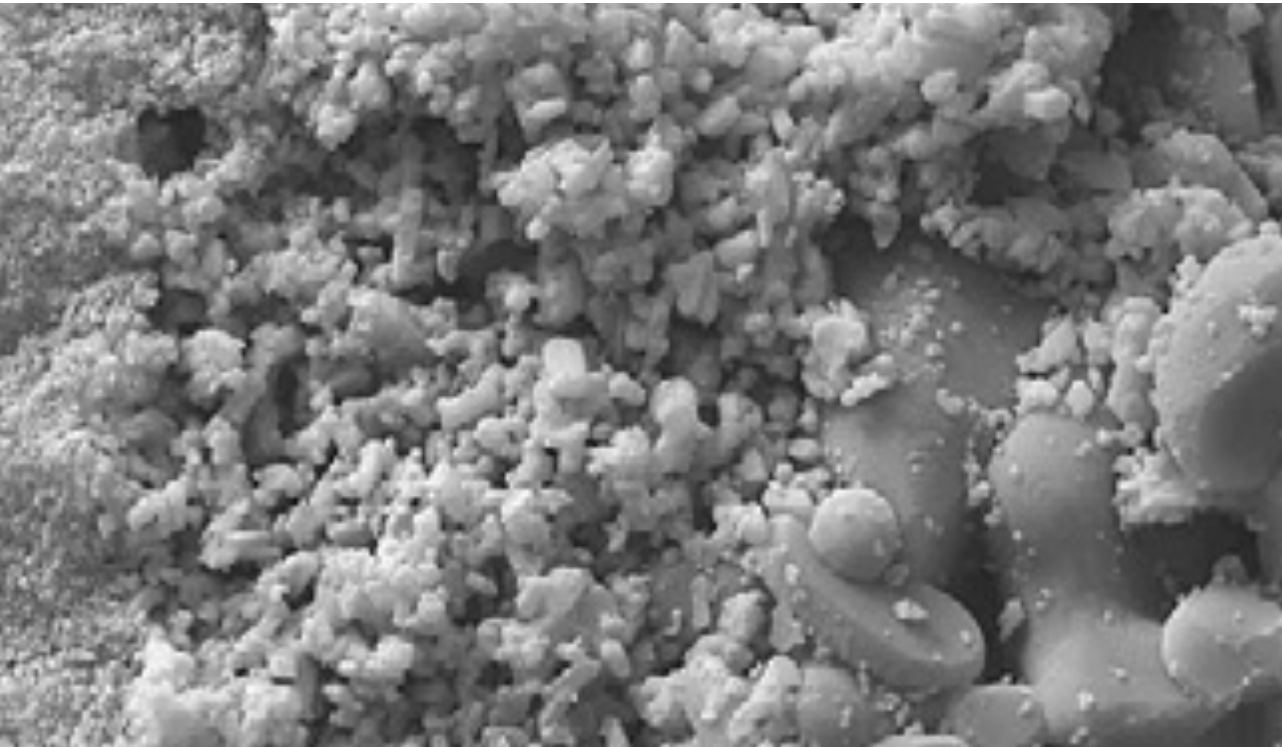
/ PRODUCT OVERVIEW

PRODUCT	NOVOGARD® CP	NOVOGARD® CDM 10	NOVOGARD® CDA A50
Form	Powder	Powder	Aqueous Dispersion
Particle Size*	Coarse Powder	D50 < 1 µm	D50 < 0.22 µm
(Agglomerates)		D90 < 6 µm	D90 < 0.45 µm
Crystal Size	0.01 – 0.2 µm	0.01 – 0.2 µm	0.01 – 0.2 µm
Crystal Phase	α-Alumina	α-Alumina	α-Alumina
pH-value			~ 9
Solid Content	100%	100%	50%

* measured with laser diffraction

/ CERAMIC MEMBRANES

When used in ceramic filter elements, NOVOGARD® offers a high chemical and mechanical resistance due to its low pore size and nano filtration features.



/ PRODUCT OVERVIEW

PRODUCT	NOVOGARD® CDA C30F	NOVOGARD® CDA C50
Form	Aqueous Suspension	Aqueous Suspension
Particle Size*	D50 < 0.1 µm	D50 < 0.22 µm
(Agglomerates)	D90 < 0.2 µm	D90 < 0.45µm
Crystal Size	0.01 – 0.1 µm	0.01 – 0.2 µm
Crystal Phase	α-Alumina	α-Alumina
Solid Content	50%	50%
pH-value	~ 4	~ 4
Pore Size Membrane	~ 50 nm	~ 100 nm

* measured with laser diffraction