

avanzare[®]

ADVANCED MATERIALS

Paint and coating solutions

PRODUCTS

- ❑ ANTIDUST AND ANTISTATIC PRODUCTS.
 - ❑ COLOURABLE SOLUTIONS.
- ❑ GRAPHENE DERIVATIVE.
 - ❑ THERMAL CONDUCTIVITY.
 - ❑ ELECTRICAL CONDUCTIVITY
- ❑ BIOCIDES.
- ❑ CORROSION INHIBITOR.
- ❑ PHOTOCATALYST PRODUCTS.
- ❑ FLAME RETARDANTS.



ANTIDUST AND ANTISTATIC



- **ANTIDUST**

- REDUCE DUST OVER THE SURFACES.
- AVOIDS ELECTROSTATIC ATTRACTION.
- MAKES CLEANING EASIER.
- COLOURABLE SOLUTIONS.
- SUITABLE FOR TRANSPARENT TREATMENTS.
- DOESN'T AFFECT ORIGINAL PROPERTIES.
- PERMANENT.
- LOW DOSAGE.
- SUITABLE FOR SOLVENT AND WATER BASED P&C.

- **ANTISTATIC.**

- AVOIDS THE ACCUMULATION OF ELECTROSTATIC CHARGES.
- COLOURABLE.
- LOW DOSAGE.
- SUITABLE FOR SOLVENT AND WATER BASED P&C.
- PERMANENT



	% avan NATUR antidust	resistivity
Acrylic resin	1	2×10^{11} (insulative),
Acrylic resin	2	8×10^9 (antidust),
Acrylic resin	4	7×10^8 (antistatic),
Acrylic resin	6	8×10^7 (antistatic),

AVANNATUR ANTIDUST

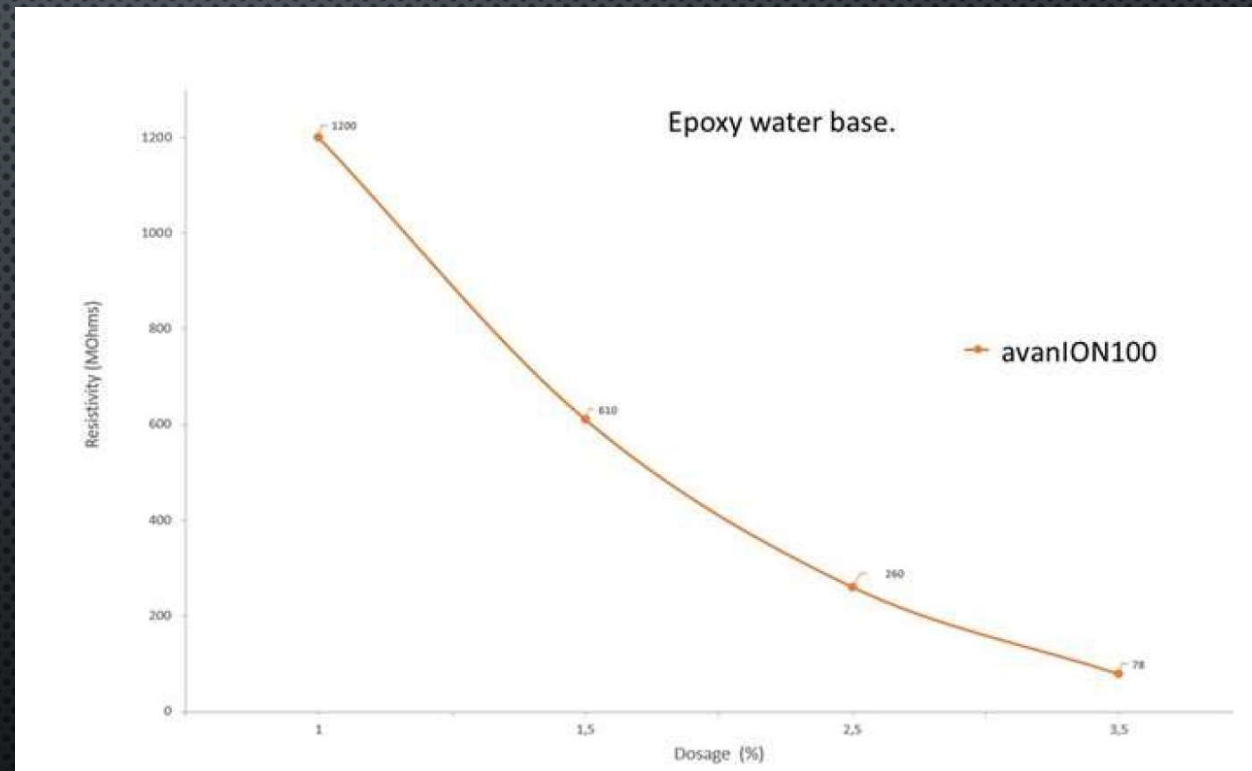
- EFFECTIVE SOLUTION IN ACRYLIC AND UNSATURATED POLYESTER RESIN.
- LOW DOSAGE AND ADJUSTABLE.
 - 2-5% TO OBTAIN BELOW $10^9 \text{ M}\Omega$
- COLOURABLE FORMULATIONS.
- NON-TOXIC.
- SOLID FORM (WHITE POWDER)





AVANION 100

- ANTI-DUST/ANTISTATIC/ESD PROPERTIES.
- EPOXY, ACRYLICS, VINYLIC, PU.
- WATERBORNE COATINGS AND PAINTS.
 - 2-5% BELOW 100 MΩ
- ADJUSTABLE DOSAGE.
- COLOURABLE.
- LIQUID.





AVANSTATIC COAT 323

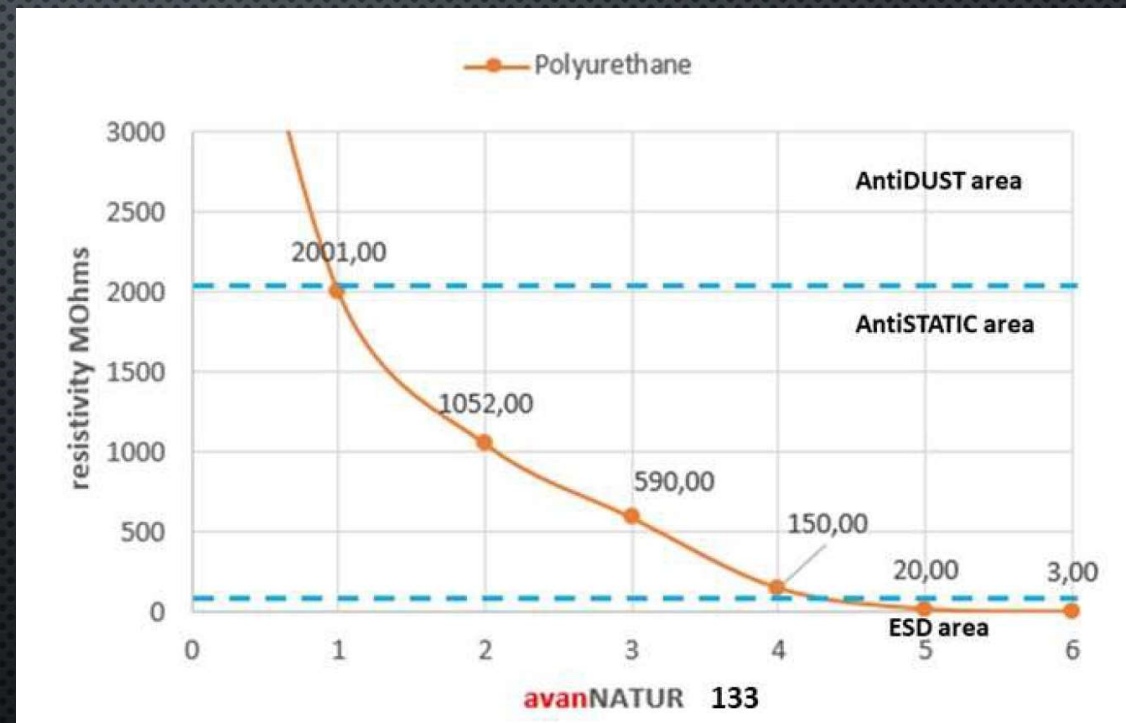


- ANTI-DUST/ANTISTATIC/ESD PROPERTIES.
- EPOXY, ACRYLICS, VINYLIC, PU.
- WATERBORNE COATINGS AND PAINTS.
 - 2-5% BELOW 100 MΩ
- ADJUSTABLE DOSAGE.
- COLOURABLE.
- SOLID POWDER (WHITE)



AVANNATUR 133

- ANTI-DUST/ANTISTATIC/ESD PROPERTIES.
- EPOXY, ACRYLICS, VINYLIC, PU, POLYESTER.
- SOLVENT BASED COATINGS AND PAINTS.
 - 1-5% BELOW 100 MΩ
- ADJUSTABLE DOSAGE.
- COLOURABLE.
- LIQUID





GRAPHENE DERIVATIVES. ELECTRIC CONDUCTIVITY

- HIGH CONDUCTIVITIES ($100-10^4$ OHM).
- INDUSTRIAL ENVIRONMENTS, ATEX, ELECTRONICS,...
- SOLVENT AND WATER BASED P&C.
- BLACK COLOUR.

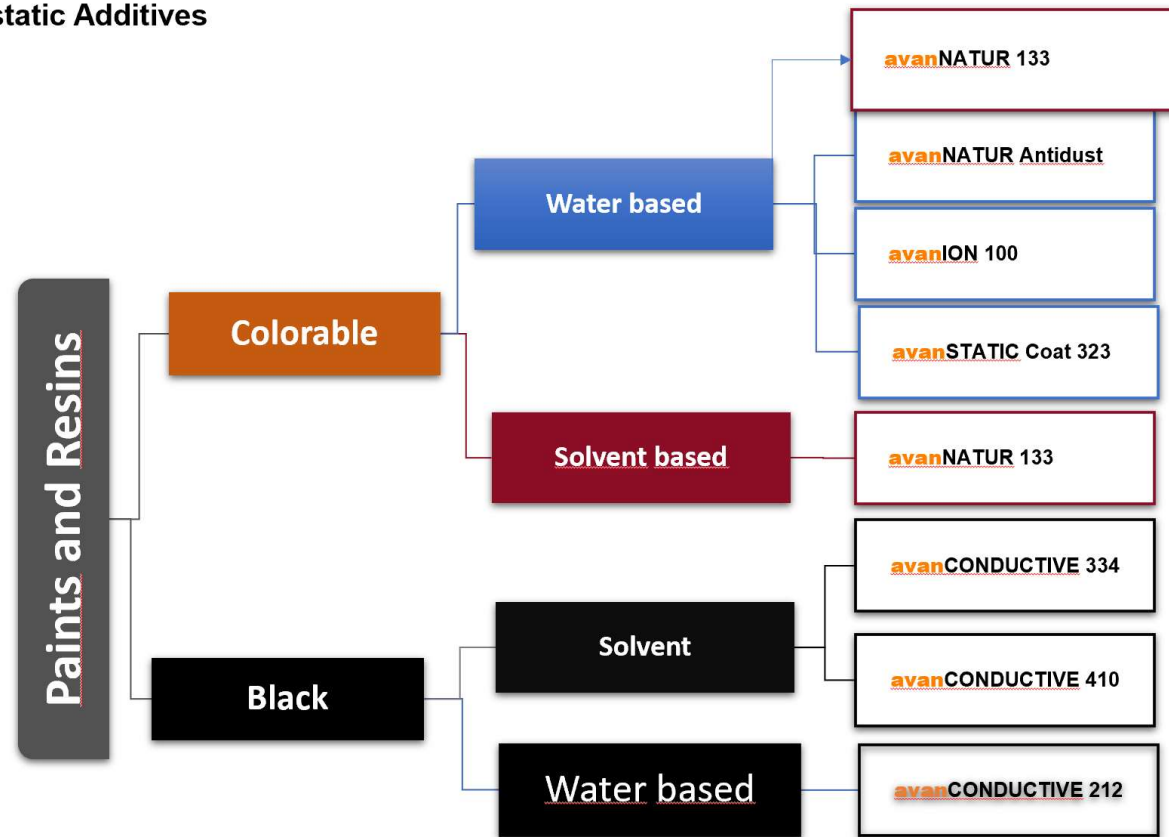
Physical-chemical properties

Particle size xy	40 x 20 μm
Medium thickness	10 nm
Number of layers	<30
Apparent density	<0,07 g/cm ³
BET	282 m ² /g
Oxygen content (XPS)	< 1%
Purity	98%
Shape	laminate

DECISION RUTE

avanzare

Antistatic Additives

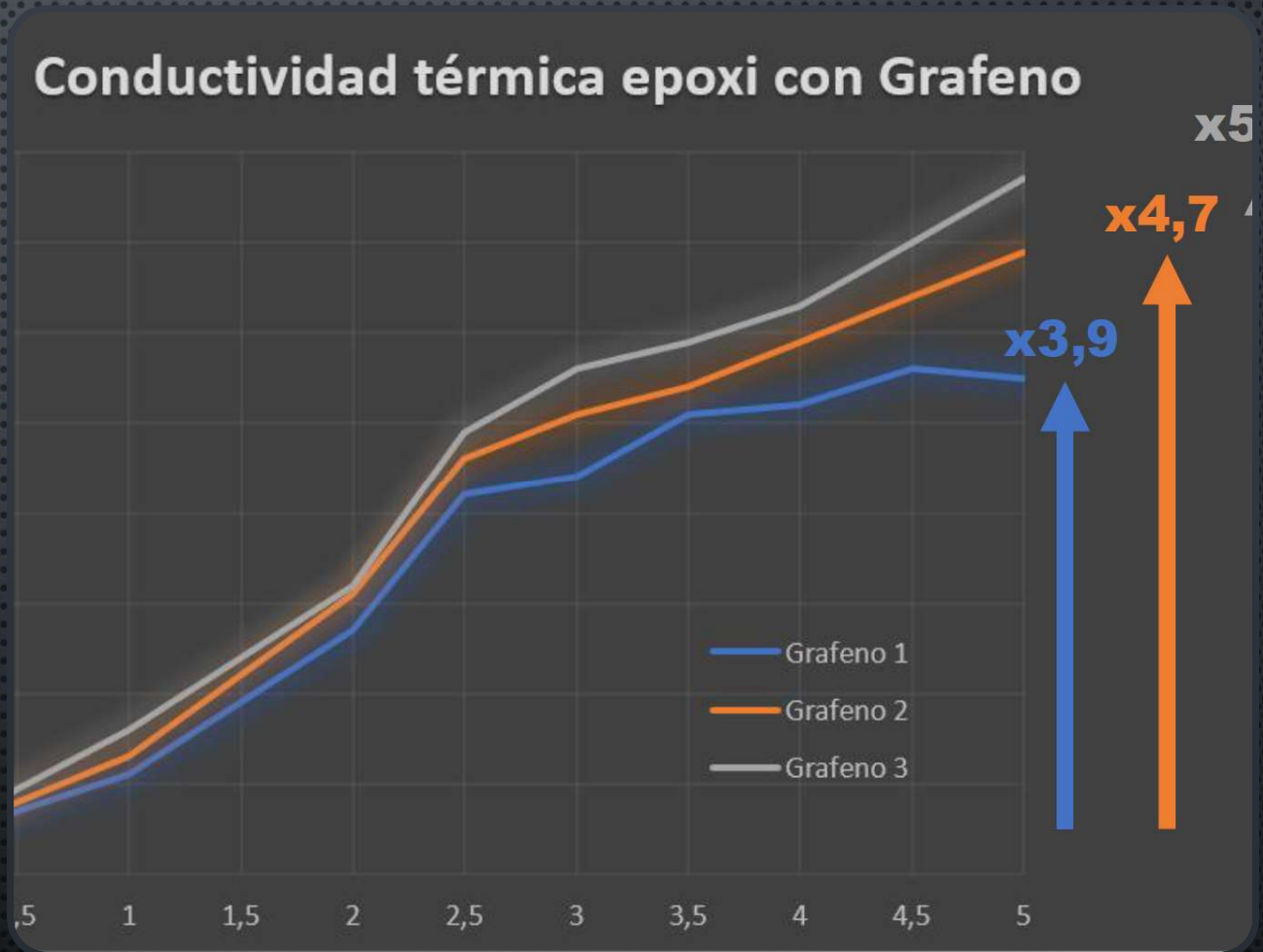




THERMAL CONDUCTIVITY

GRAPHENE DERIVATIVES. THERMAL CONDUCTIVITY

- VALID FOR WATER AND SOLVENT BASED.
- IMPROVE THE REFRIGERATION CAPACITY.
- ALLOWS HEAT TRANSFER (FLOORING).
- BETTER STABILITY AT HIGH TEMPERATURE (HEAT RESISTANT).





BIOCIDES

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- AGAINST BACTERIA, FUNGI, ALGAE AND MOLD.
- ODOURLESS.
- COLOURABLE.
- ULTRA-LOW DOSAGE
- ECONOMIC.
- SOLVENT AND WATER BASE
- BASED IN ZN AND/OR AG.
- FACADE, WASHROOMS, KITCHENS, INDUSTRY.



AVANZNO

- POWERFUL ANTIMICROBIAL AGENT.
- BASED IN **ZnO** FUNCIONALIZED, **PYRITHIONE** AND/OR PIRIDINE-2-THIOL 1-OXIDE SODIUM SALT.
- WIDE SPECTRUM AGAINSTS MICRORGANISMS.

Prüfung der antibakteriellen Wirkung im Challengetest nach ASTM E 2149 mod. (PFI 10/2004)				
<i>Staphylococcus aureus</i> ATCC 6538 (gram- positives Bakterium)				
	Mittelwert KBE/ml	Mittelwert log ₁₀ KBE/ml	Wachstumsfaktor	Wachstumshemmung
KBE/ml, 0h (Inokulum)	3,4E+05	5,53	—	—
KBE/ml, (0h Prüfgegenstand)	3,4E+05	5,53	—	—
KBE/ml, 4h	3,9E+05	5,59	0,05	13,24
KBE/ml, 24h	< 1,0E+01	1,0	-4,53	100%*
<i>Klebsiella pneumoniae</i> ATCC 4352 (gram- negatives Bakterium)				
	Mittelwert KBE/ml	Mittelwert log ₁₀ KBE/ml	Wachstumsfaktor	Wachstumshemmung
KBE/ml, 0h (Inokulum)	4,8E+05	5,68	—	—
KBE/ml, (0h Prüfgegenstand)	4,8E+05	5,68	—	—
KBE/ml, 4h	< 1,0E+01	1,0	-4,68	100%*
KBE/ml, 24h	< 1,0E+01	1,0	-4,68	100%*

100%* = >99,99% KBE = Kolonie bildende Einheit
0h = 3-5 Minuten (verfahrenstechnisch bedingt)



THE COMBINATION AT LOW CONCENTRATION OF **Zn AND PYRITHIONE** HAS BEEN REPORTED AS A **INHIBITOR** OF THE REPLICATION OF **SARS CORONAVIRUS** AS COVID-19



RANGE OF PRODUCTS

- **AVANZNO BAC.**

- SOLID DISPERSION IN A CALCIUM CARBONATE AND ZNO MATRIX.
- INSOLUBLE IN WATER.
- MAXIMUM TEMPERATURE 235°C.
- DOSAGE 0,1-0,3%.

- **AVANZNO BAC OM.**

- COLLOIDAL LIQUID DISPERSION.
- FOR WATER BASED FORMULATIONS.
- MAXIMUM TEMPERATURE 220°C
- DOSAGE 0,2 TO 0,5%



Product	Material in which the solution can be added	format	Use rates (%)	Activity level
avanZnO bac	Resin, PVC, silicone, rubber, PU	Solid	0.10-0.20	Excellent
avanZnO bac – OM	Textile, water-based resin	Liquid (water)	0.15-0.30	Excellent

UNDER EUROPEAN REGULATION 1048/2005

Product	CP REGULATION (EC) No 1048/2005
avanZnO bac	2, 6, 7, 9, 10, 21
avanZnO bac – OM	2, 6, 7, 9, 10, 13.

CP regulation types

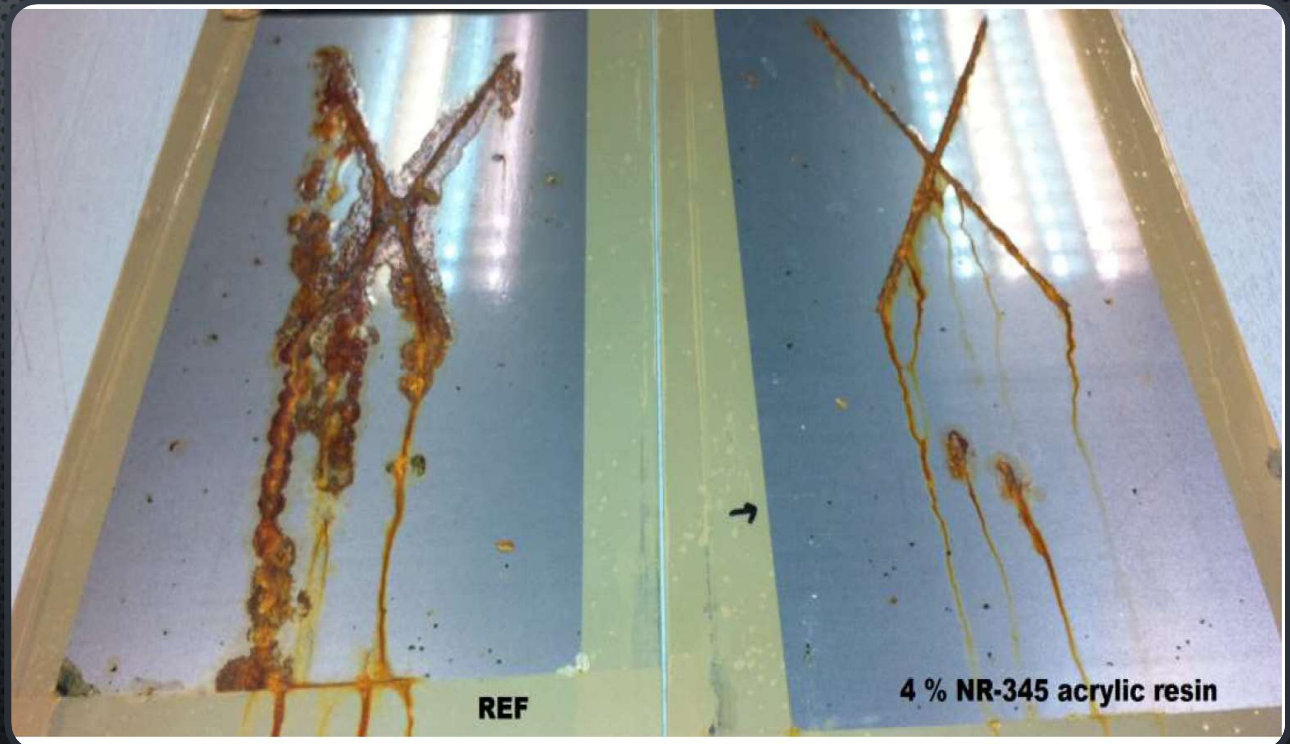
2	Desinfectans and algacides not intended for direct application to humans or animals
4	Food and feed areas
5	Drinking water
6	Reservatives for products during storage
7	Film preservativos
9	Fibre, leather, rubber and polymerised materials preservatives
10	Construction material preservatives
11	Preservatives for liquid-cooling and processing systems
13	Preservatives or cutting fluid preservatives
21	Antifouling products

CORROSION INHIBITOR

NR-345



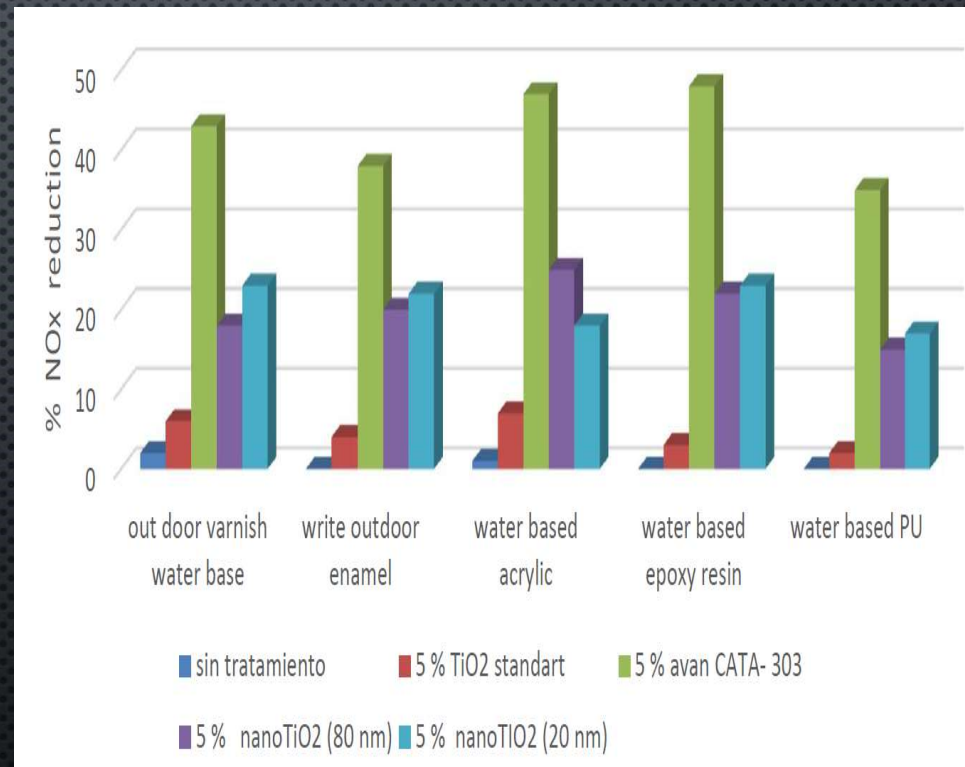
- SPECIALLY FORMULATED FOR VARNISH AND PAINTS.
 - ACRYLICS, ALKYL, EPOXY AND PHENOLIC.
- IMPROVE METAL AND VARNISH RESISTANCE AGAINST THE OXIDATIVE AGENTS ATTACK.
- DOUBLE ACTION AGAINST OXIDATION:
 - IMPROVE ADHERENCE OF THE PAINT.
 - PRESENCE OF NANO-ZN LAYERS.
- COLLOIDAL DISPERSION OF ZN WITH SILANES.
- TRANSPARENT FORMULATION.
- DOSAGE 2 TO 5 %.



PHOTOCATALYST PRODUCT



- PHOTOCATALYST MATERIAL THAN ELIMINATES VOCS.
- BETTER AIR QUALITY BY PHOTOCATALYSTS ACTION
- AUTOCLEANING IN RESINS.
- DOESN'T AFFECT TO ORIGINAL COLOUR.
- DOESN'T DEGRADE THE SUBSTRATE.
- BASED ON ANATASA (TiO_2) AND METALLIC CATALYST TRACERS.
- HUGE EXCITATION IN VISIBLE AND UV-A AND UV-B.





Range of products

- **AVANCOLLOID CATA 303**

- COLLOID.
- DOSAGE 8 TO 12 %

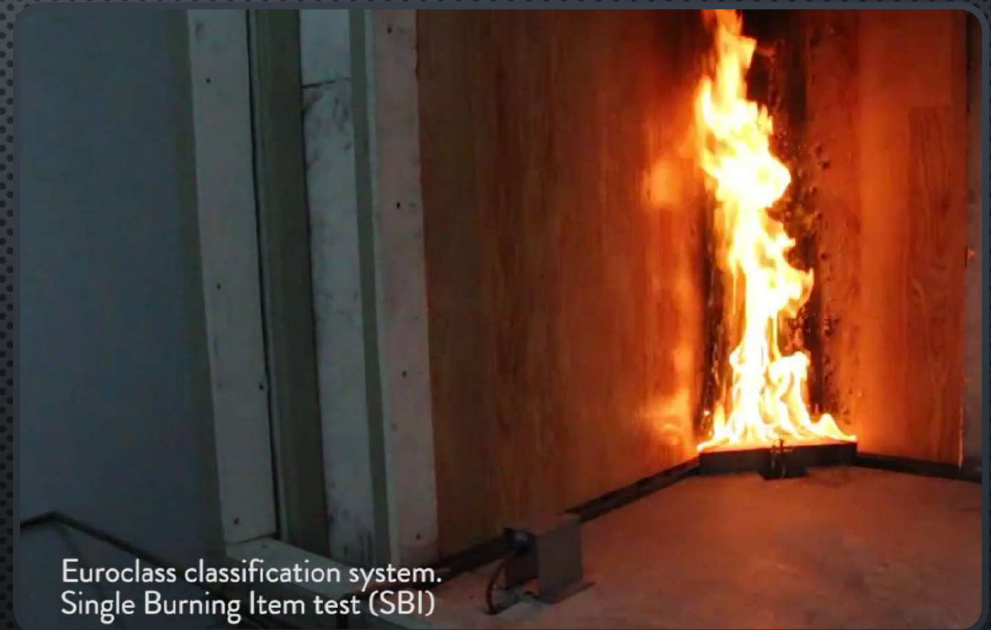
- **AVANCATA 303**

- WHITE POWDER.
- DOSAGE 0,5 TO 1,5%



FLAME RETARDANTS

- HALOGEN FREE.
- Sb FREE.
- COLOURABLE.
- VALID FOR TRANSPARENT SOLUTIONS.
- ECONOMIC.
- SINERGIC EFFECT WITH GRAPHENE.
- TAYLOR MADE SOLUTIONS.



Euroclass classification system.
Single Burning Item test (SBI)

AVANFR 85Ti



- VALID FOR PU, ACRYLICS, ALKYL, EPOXY, POLYESTER,...
- LIQUID EASY TO DISPERSE.
- SYNERGIES WITH GRAPHENE (**AVANFR 85 TI GRAPHENE PLUS**) DUE THE CARBONACEOUS LAYER (CHAR) FORMED IN PRESENCE OF GRAPHENE.

	Matrix	avanFIRE FR 85Ti	avanFIRE Graphene plus	Standard	Classification result
Varnish	PU	12	0	UL-94	V0
Piece	PU	18	0	UL-94	V0 (0,8 mm)
Piece	PU	11	2	UL-94	V0 (0,8 mm)
Varnish	Epoxy	13	0	UNE-EN 13823	B-s1, d0
Varnish	Epoxy	15	0	UNE-EN 13501	B _{FL} -s1
GelCoat	Polyester/ATH synergetic	5	0	UNE-EN 13823	B-s1, d0

THANK YOU VERY MUCH.