

**SELAC IONatura
BACTERIOSTATIC PRODUCTS**

**DESCRIPTION AND
TECHNICAL
PECULIARITIES**

Selac IONatura powder coatings are specifically designed to limit the proliferation of bacteria, mycotic organisms and algae. Their efficacy has been tested in qualified external laboratories according with normative JIS Z 2801:2000. Thanks to their peculiar properties, **Selac IONatura** powder coatings represent the ideal solution for the coating of items used in those environments where is more likely the presence and the exchange of micro-organisms that may be a risk for humans or for foodstuffs (hospital and medical items, swimming pool and gymnastic articles, refrigerating cellars and desks) The bacteriostatic action of **Selac IONatura** has a long duration in time and it is not affected by normal cleaning operations.

GENERAL PROPERTIES

Selac IONatura properties are the same of the standard versions and they are briefly summarized as:

- _ Proven bacteriostatic properties
- _ Excellent mechanical properties
- _ Very good aesthetic properties

Technical data sheets for each code are available on demand.

PRODUCT RANGE

IONatura technology has no interference with other typical properties of each chemistry, therefore it is possible to have bacteriostatic products in the following versions:

- _ Epoxy
- _ Epoxypolyester
- _ Industrial polyester
- _ Homologated polyester
- _ Superdurable polyester
- _ Indoor or outdoor polyurethanes, even in antigraffiti version

COLOURS AND EFFECTS

IONatura technology does not introduce any limitation in chromatic range, in structure possibilities or in the reactivity that any chemistry may reach. Possible finishes are:

- _ Smooth film , with brilliance from 5 to 95 gloss
- _ Fine textured
- _ Glossy or matt orange peel
- _ Dry-blend or bonded metallic
- _ Glossy or semimatt clearcoat

**ACTIVITY VERSUS
MICRO-ORGANISMS**

Tests driven at authorized laboratory according with the specification JIS Z 2801:2000, on a coating in contact with a bacterial colony of normalized ATCC 6538 P Staphylococcus aureus , demonstrated a reduction higher than 99% of proliferation, in comparison with a blanc specimen exempt from active substance.

The spectrum of activity of **Selac IONatura** is proven, among others, versus the following micro-organisms:

BACTERIA

Staphylococcus aureus	Escherichia coli
Bacillus subtilis	Pseudomonas aeruginosa
Streptococcus pyrogenes	Salmonella enteridis
Corynebacterium xerosis	Klebsiella aeruginosa
Micrococcus luteus	Salmonella typhimurium
Listeria welshimeri	Legionella pneumophila

MOLDS AND YEASTS

Aspergillus niger	Cladosporium cladosporoides
Penicillium funiculosum	Penicillium citrinum
Chaetomium globosum	Candida albicans
Gliocladium virens	Saccharomyces cerevisiae
Aureobasidium pullulans	

ALGAE

Chlorella pyrenoidosa	Oocystis vulgaris
Scenedesmus quadricauda	Skeletonema costatum
Selenastrum capricornutum	

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CURING CONDITIONS

Curing is possible at the same conditions suitable for the mother-series
Always act in accordance with suggested polymerization schedule mentioned on the specific technical data sheet.

SUPPORT PREPARATION

Painting must be done on clean support, free from oil, grease, oxidation, residuals of working, welding and rinsing processes, and any contaminating agent must be avoided.

Iron and steel: iron or zinc salts phosphatization

Aluminium: cromatation or chrome-free pretreatment are recommended

Hot dipping galvanized steel: according with the item adopt mechanical treatment, phosphatization or chromatation process.

THICKNESS

Minimal recommended thickness is 60 microns, but in any case the coating layer must completely cover any surface roughness, especially in case of sandblasted supports.

For fine textured products the minimal suggested thickness is 80 micron.

For orange peel products the minimal suggested thickness is 100 micron.

**APPLICATION METHODS
AND RECYCLE**

The application is possible with manual or automatic electrostatic devices, both corona and tribo.

Overspray can be recycled in the fresh powder and re-used, but the use of integral recycle is not recommended at all; do not exceed 25% and maintain a constant feeding of fresh powder.

On metallic products an indicative ratio is 10%, but an improper management of the recycle may result in remarkable variations of the effect, therefore it must be evaluated in each single case; please contact arsonsisi s.p.a. and refer to the technical informative note about application of metallic.

**GENERAL
TECHNICAL FEATURES**

Specific gravity: 1,3 to 1,7 g/cc according colour and formula

Theoretical yield at 60 micron: 13 to 10 sqm/kg
according colour and formula

Brilliance range at 60°: 20 to 95

Average particle size (laser Malvern): 32 - 45 micron

X99 particle size (laser Malvern): 95 - 150 micron

***** **NOTE: taylor-made particle size distributions
are possible on demand**

Always consult the specific TDS of each single product or contact arsonsisi s.p.a.

**MECHANICAL
PROPERTIES**

Test conditions: trials are made on normalized UNI 5961 panels 0,6 mm thick, degreased with solvent, coated with 70 - 80 micron of powder completely cured.

Mentioned results are obtained under controlled lab conditions; therefore these values are merely indicative and must be confirmed in the actual use conditions under the responsibility of each single user.

Minimal polymerization conditions (PMT)

According with series characteristics

Thickness: 70 - 80 micron.

Direct impact: min. 30 Nm (ISO 6272)

Erichsen embossing (ISO 1520): min. 4 mm

Cylindrical mandrel (ISO 1519/73): pass 3/16" = 5 mm

Adhesion (ISO 2409): GT 0/1

Buchholz hardness (ISO 2815): min. 85

Pencil hardness (ASTM D3363): H - 2H

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**CORROSION
AND DURABILITY**

Test conditions: trials are made on normalized UNI 5961 panels 0,6 mm thick, treated by microcrystalline zinc salts phosphatization, or on AA 5005-H24 chromated aluminium panels, coated with 70 - 80 micron of powder completely cured.

Mentioned results are obtained under controlled lab conditions; therefore these values are merely indicative and must be confirmed in the actual use conditions under the responsibility of each single user.

Complete data are mentioned on data sheets that may be required for a single code or in general form for any series.

Here below some general data is given, as a mere indication.

Salt spray test (ISO 3768 / ASTM B117)

Support UNI 5961 steel treated by zinc phosphate

After 500 hours rust penetration at the cross-hatch: max. 4 mm

Saline-acetic spray test (ISO 9227)

Support UNI 5961 steel treated by zinc phosphate

After 500 hours rust penetration at the cross-hatch: max. 16 mm

Humidostatic test (ISO 6270)

Support UNI 5961 steel treated by zinc phosphate

After 1000 hours no film variation

Chemical resistances at room temperature (25±3°C)

Generally good versus diluted acids and diluted alkalis

Sufficient versus aromatics, moderate versus ketons and halogenated.

The behavior versus very aggressive or concentrated agents or under different conditions must be verified by the user.

STORAGE AND STABILITY

Products must be stored in the original sealed packaging, in a cool and dry place and at a temperature not exceeding 30°C.

Always consult the specific TDS of each single product or contact arsonsisi s.p.a.

RECOMMENDATIONS

This information is given on the base of our best experience as well as the one of specialized laboratories and they are continuously updated, nevertheless the user has the complete responsibility to apply and to experiment the products according its own specific necessities.

This document has the intention to describe and summarize the main properties of arsonsisi products, but in no case it can be considered as a warranty for them.

Further information about application of metallic effects, maintenance of goods coated with homologated polyesters or availability of special versions is mentioned in specific technical integrative notes.