

**SELAC SPECIAL THERMO
HIGH THERMAL STABILITY EPOXYPOLYESTERS**

**DESCRIPTION AND
TECHNICAL
PECULIARITIES**

Selac THERMO powder coatings are epoxy polyesters specifically designed to allow a prolonged exposure to temperatures above 100°C with limited gloss and colour variation (the use is possible until 180 - 190°C) .

They may be used for the coating of kitchen gas cookers , radiators and domestic appliances in general .

Selac THERMO offer an excellent corrosion resistance with good mechanical properties properties and an outstanding aesthetical level .

GENERAL PROPERTIES

- _ Better gloss and colour retention under prolonged heating in comparison with standard versions
- _ Good mechanical properties
- _ Very good aesthetic properties
- _ Good corrosion resistance

PRODUCT RANGE

Chemical nature is epoxy polyester .

These products are usually sold under K or E coding system , but some of them could be supplied with previous PH code

Technical data sheets for each code are available on demand .

COLOURS AND EFFECTS

Possible finishes are :

- _ Smooth film , with brilliance from 20 to 95 gloss
- _ Fine textured
- _ Glossy or matt orange peel
- _ Dry-blend or bonded metallic

Selac THERMO are feasible with no limitazioni on colour range

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 : chromate or chrome-free pretreatment are recommended

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

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**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

**LONG TERM
THERMAL EXPOSURE**

Pannelli verniciati con un prodotto Thermo e polimerizzati nelle idonee condizioni sono
stati sottoposti a successivo riscaldamento inserendoli in forni di laboratorio a tre diverse
temperature (120°C ; 160°C ; 190°C) per il numero di ore riportate .
Di seguito le variazioni di colore a brillantezza riscontrate dopo diverso tempo .

EXPOSURE AT 190°C

_ Start	_ Brilliance 87 gloss
_ After 6 hours	_ Brilliance 83 gloss ; DE Cielab 1,67
_ After 12 hours	_ Brilliance 83 gloss ; DE Cielab 1,76

EXPOSURE AT 160°C

_ Start	_ Brilliance 87 gloss
_ After 25 hours	_ Brilliance 87 gloss ; DE Cielab 0,39
_ After 50 hours	_ Brilliance 87 gloss ; DE Cielab 0,88
_ After 75 hours	_ Brilliance 87 gloss ; DE Cielab 1,28
_ After 100 hours	_ Brilliance 85 gloss ; DE Cielab 1,45

EXPOSURE AT 120°C

_ Start	_ Brilliance 87 gloss
_ After 25 hours	_ Brilliance 72 gloss ; DE Cielab 0,39
_ After 50 hours	_ Brilliance 62 gloss ; DE Cielab 0,42
_ After 75 hours	_ Brilliance 66 gloss ; DE Cielab 0,39
_ After 100 hours	_ Brilliance 62 gloss ; DE Cielab 0,48

IMPORTANT NOTE :

These data refer to product K210BUS (bluish white) and are mentioned
as a mere exemple .
Each product must be checked by the user in actual use conditions .

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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 chromatated 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 alogenated
The behaviour 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 packagings , 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

These informations are 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 informations about application of metallic effects , maintenance of goods coated with homologated polyesters or availability of special versions are mentioned in specific technical integrative notes .