

**SELAC ALIPHATIC POLYURETHANES FOR OUTDOOR  
SERIES : P..N**

Glossy - Semiglossy - Semimatt - Matt - Metallic and tridimensional effect

**DESCRIPTION**

Thermosetting powder coatings based on hydroxylated polyester resins crosslinked with aliphatic isocyanates and exempt from dangerous substances .  
These formulations can be used for general outdoor use and grant good colour stability , gloss retention , corrosion resistance as well as excellent aesthetic properties .  
The application is possible with corona and tribo electrostatic systems ( if mentioned )  
Formulations having special characteristics according with the specific final use or with particular application conditions can be developed on demand .

**GENERAL PROPERTIES**

Excellent mechanical properties  
Good resistance to ageing in outdoor environments  
Good corrosion resistance  
Good or very good aesthetic properties

**PRODUCT RANGE**

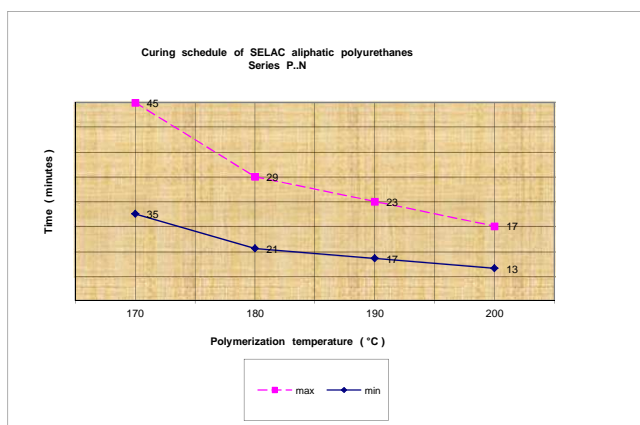
P..N : standard formulations for general outdoor use  
**P510 AGP XPRAY** : special antigraffiti versions ( **see dedicated TDS** )

**COLOURS AND EFFECTS**

Possibility of a complete colour range  
Gloss range from 20 up to 95 gloss  
Smooth , fine textured , orange peel finish  
Metallic effects possible in dry-blend or bonded versions  
Neutral and shady clearcoats  
Wide possibility of taylor-made versions on demand

**CURING CONDITIONS**

**Drafts interpretation**  
To obtain functional , optical and aesthetic properties mentioned in TDS the curing schedule adopted for the products must be in any point of the draft area comprised between the curves of minimum and maximum .  
**Times always refer to object temperature ( PMT )** , being the heating time variable from item to item and from plant to plant .



**Minimal conditions ( PMT )**  
**35' @ 170°C - 21' @ 180°C - 17' @ 190°C - 13' @ 200°C**

**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 .

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**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 ( if specified ) .  
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 .

**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**

**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 )**

Depending on the series ( see above drafts )

**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 .

**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

**Exposure in sulphur dioxide according " Kesternich test " ( ISO 3231 )**

After 24 hours no blistering , no colour variation , no gloss variation

**Exterior durability**

After 12 months of outdoor exposure the coating film shows moderate variations ; a slight lowering of the brilliance and some slight discoloration are acceptable .

**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

**IMPORTANT NOTE**

Metallic or tridimensional effect products may not grant same performances due to the metallic pigments or to the particular structure

**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 .

In these conditions products **SELAC P polyurethanes** are stable for a period of 24 months .

Matt versions ( 4 in fourth position ) are stable for a period of 12 months .

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 .