



Sylaqua™: Eco friendly Water Borne Varnish

- Furniture Industry

TÜV
AUSTRIA
HELLAS

EN ISO 9001:2000
No.: 6111614

Sylac S.A.

Varnish and Coating Technology
For Wooden Surfaces

Thesi Roumania,
Inofita Viotias, Greece, 320 11
Tel (+30) 22620 32331
Fax (+30) 22620 31709
e-mail: info@sylac.gr
www.sylac.gr

Presentation: Sylaqua Water Borne Series
Sylac S.A.
Michael Symeonides
Polymer Chemist – Water Borne Technologies





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Friendly to the
environment
and to the user

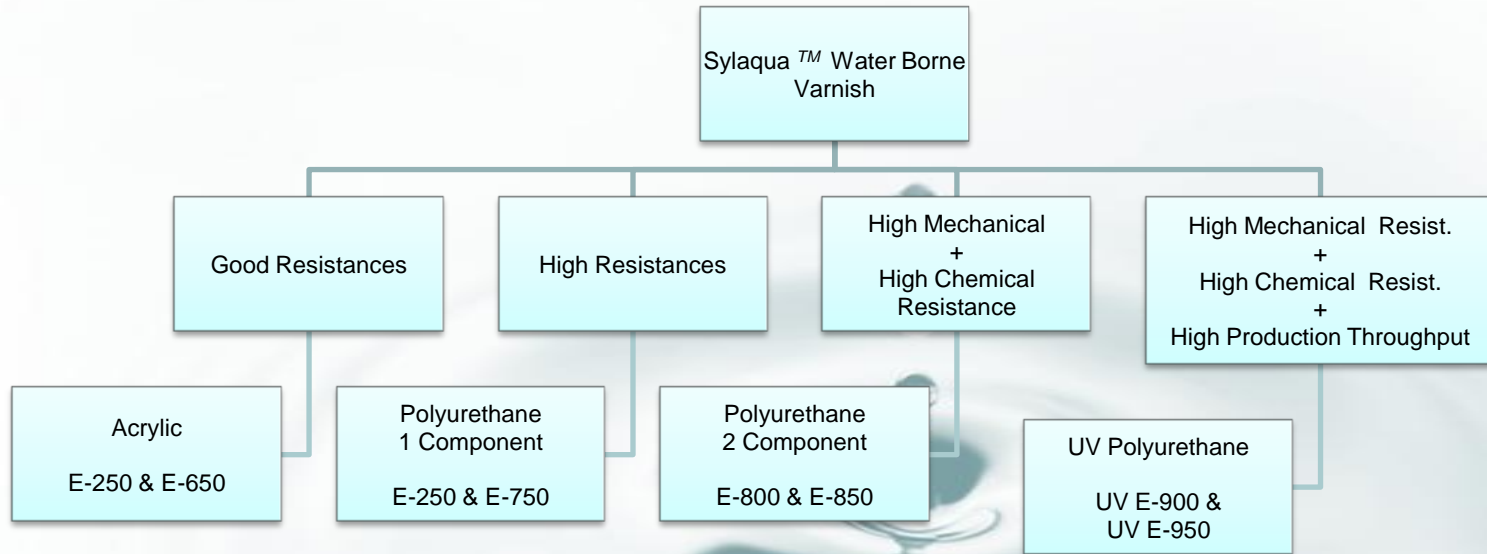
 Odourless

 High
Resistance to
Wear
➤ Mechanical
➤ Chemical



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Technology Selection Guide



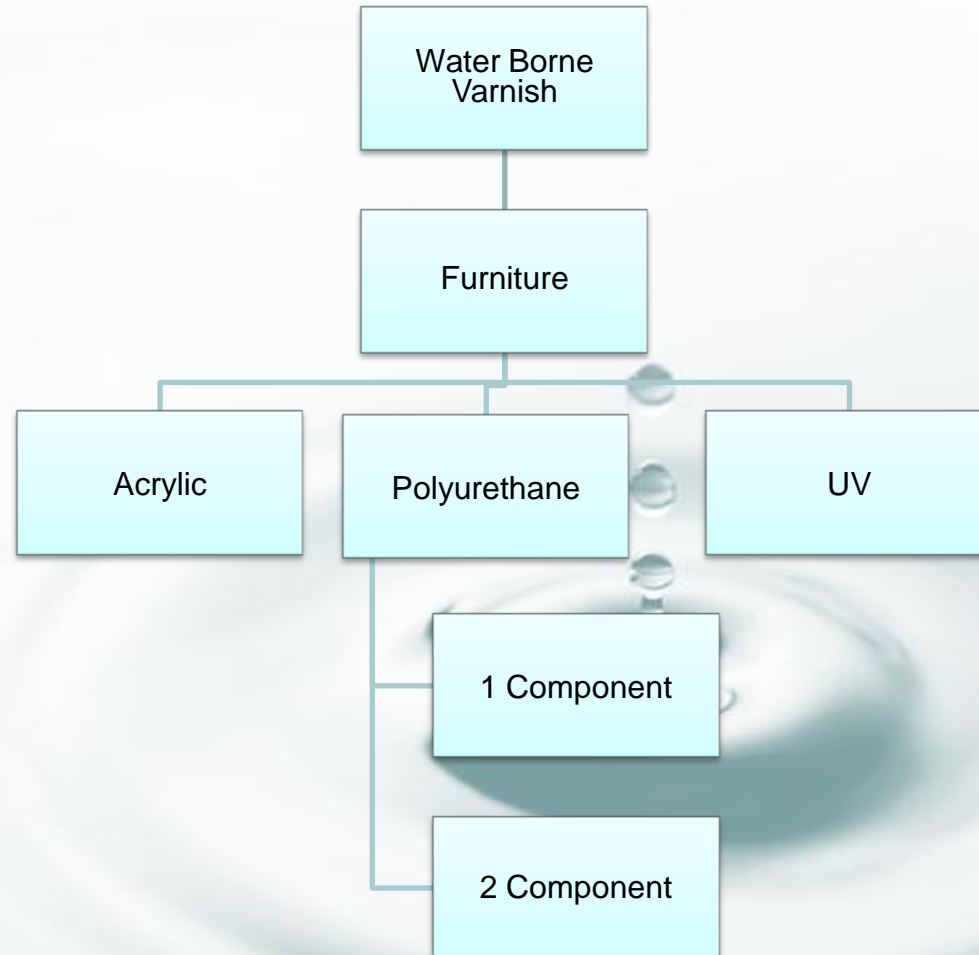
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Water Borne Technologies



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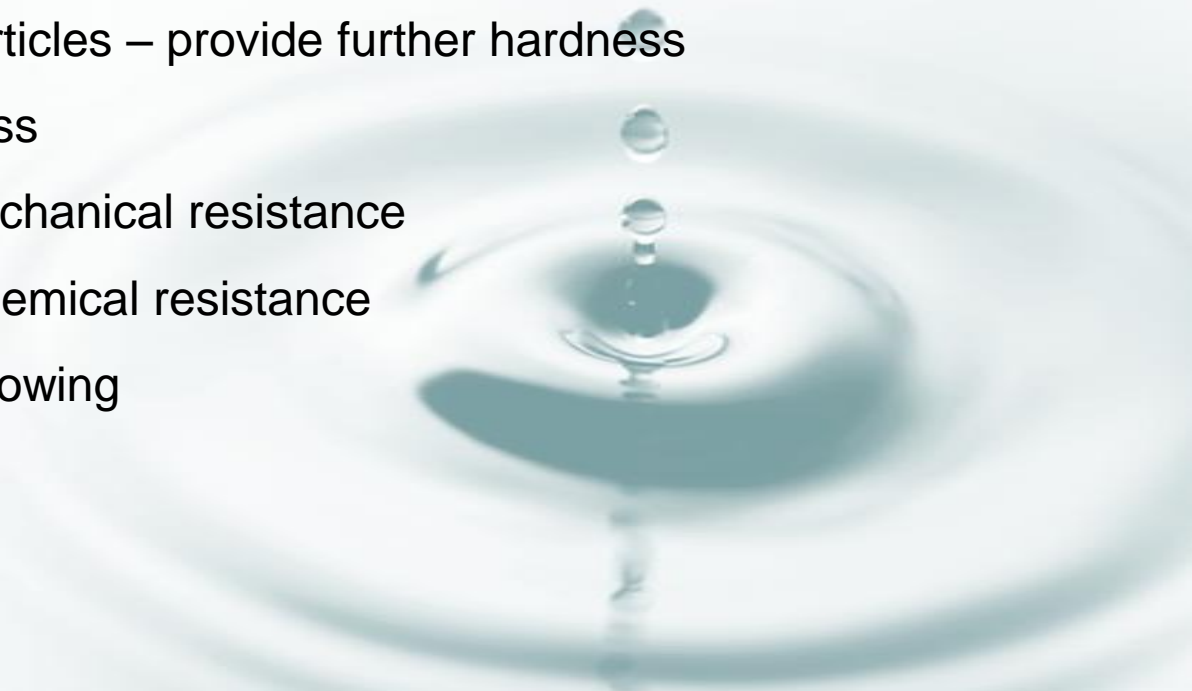
Acrylic Varnish - Properties



- 1 Component – water is dispersing media
- Self crosslinking
 - Hardening of the varnish via a secondary chemical reaction
- Nanoparticles – provide further hardness
- Odourless
- High mechanical resistance
- Good chemical resistance
- Non Yellowing

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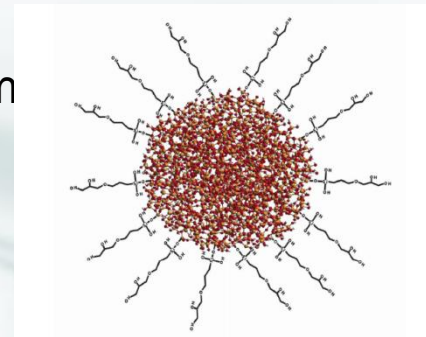
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Polyurethane Varnish - 1 Component - Properties



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- **Fast** drying
- High **mechanical resistance** & **wear** and tear
 - **Hardness & Elasticity** → scratch resistance
 - **Nanoparticles** → Abrasion resistance
 - Hardening via a 2nd **crosslinking** mechanism
- Odourless
- High chemical resistance
- Non yellowing (aliphatic)



Nanoparticles

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Polyurethane Varnish - 2 Component - Properties



- High Chemical Resistance

- ✓ Wine

- ✓ Mustard

- ✓ Coffee

- ✓ Alcohol

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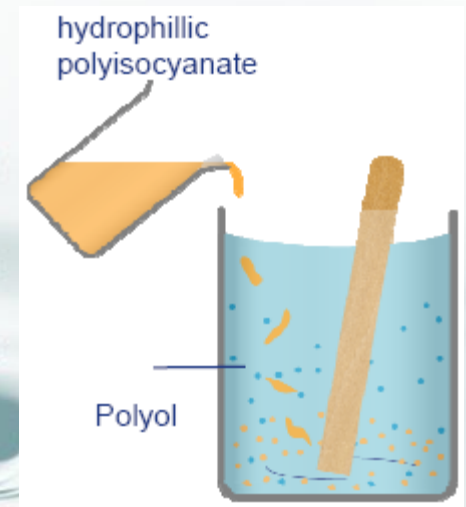
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Polyurethane Varnish - 2 Component - Properties



- **Fast drying**
- **High mechanical resistance & resistance to wear**
 - **Hardness & Elasticity** → scratch resistance
 - **Nanoparticles** → Increased hardness & abrasion resistance
 - Hardening via a **2nd crosslinking** mechanism

- **Odorless**
- **Non Yellowing**



Process of dispersing hardener in the varnish

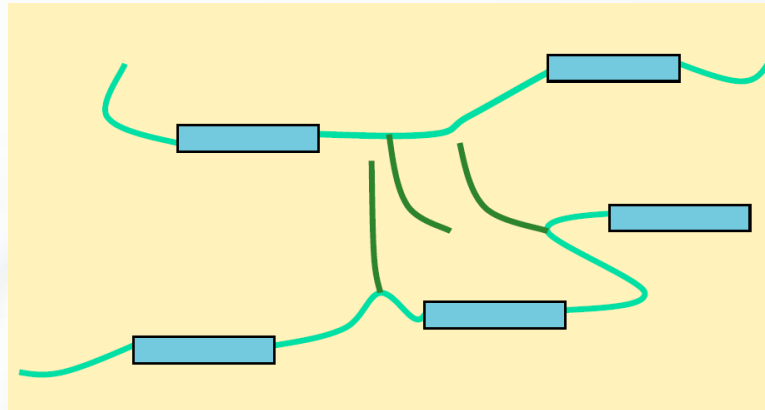
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2nd Crosslinking Mechanism

Via this chemical process, the coating achieves increased resistance

- Mechanical
- Chemical





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Application Conditions



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- Temperature

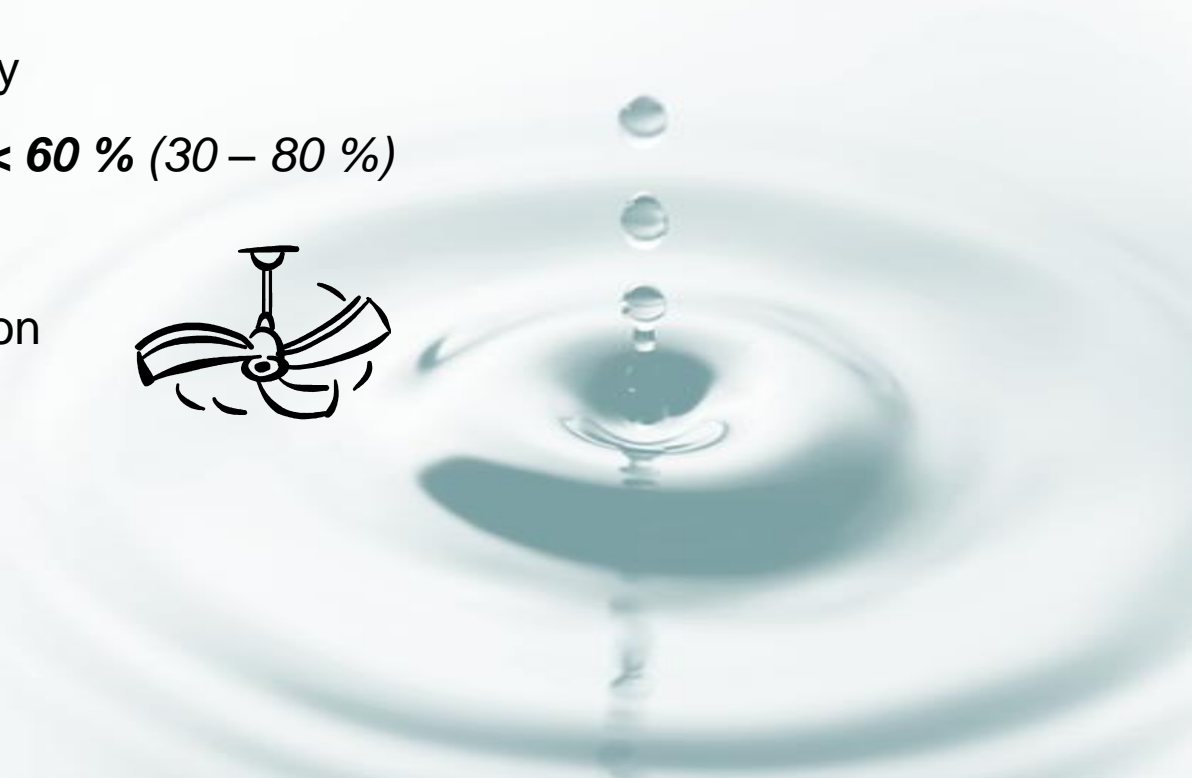
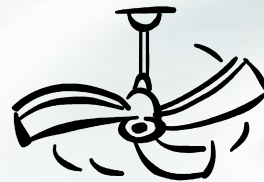
20 - 35 °C (13-40 °C)



- Humidity

< 60 % (30 – 80 %)

- Ventilation



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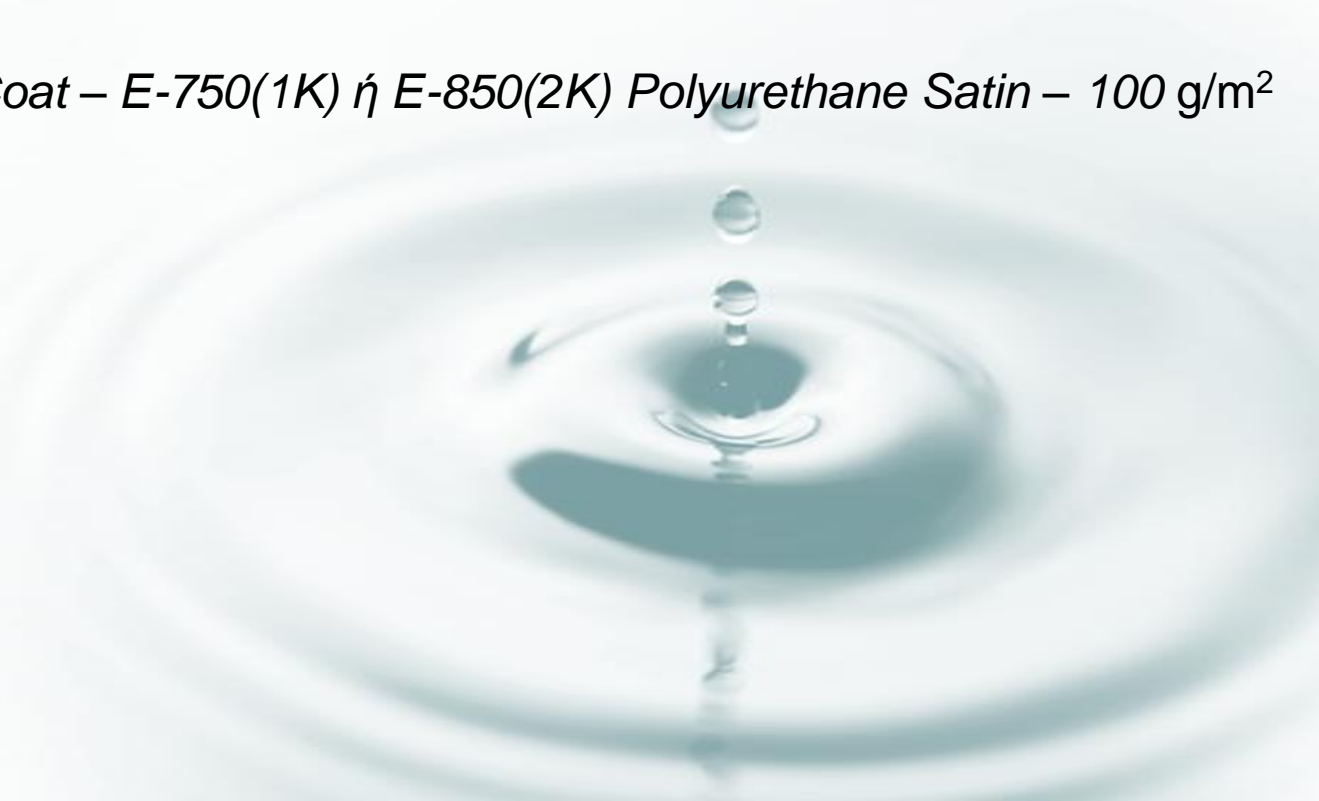
Example Application – Closed Pore Coating



- 1° Coat – E-250 Acrylic 1K Sealer – 200 g/m²
- 2° Coat – E-250 Acrylic 1K Sealer – 200 g/m²
- 3° Coat – *E-750(1K) ή E-850(2K) Polyurethane Satin* – 100 g/m²

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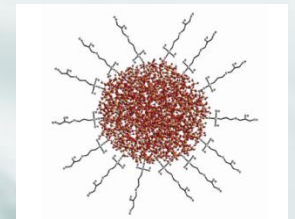
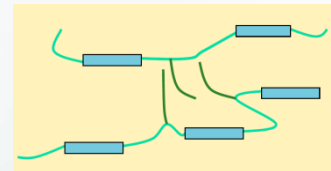


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Summation – Advantages of our Sylaqua™ Polyurethane Varnishes



- ✓ Clarity
- ✓ Accentuate the natural beauty of the wooden surface
- ✓ Very high resistances to wear and tear, via
 - Hardness & Elasticity
 - 2nd Crosslinking Mechanism
 - Nanoparticles



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Summation – Choosing a Polyurethane Coating – 1K or 2K?



E-750
1 Component

- Resistance to wear
- Superior silk satin finish

E-850
2 Component

- + Chemical resistance

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Thank you for your attention!

Questions?

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