Cold Plasma Surface Treatments

**BATIR PROJECT**

Atmospheric pressure Plasma treatment for polymer films and fabrics functionalisation, cleaning, coating

**Process**

Electric discharge in a controlled atmosphere:
- Plasma Gas
- Reactive gas and vapours

Electrodes

O₂ detectors

Extraction

Film/fabrics

www.cpi-plasma.com
**Application: gluing-lamination and printing on polymer films**

- Homogeneous chemical grafting
- Homogeneous and long lasting high surface energy
- Excellent adhesion of the laminated structures
- High quality printing

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**Textile enduction application**

- Homogeneous surface chemical modification
- Excellent adhesion after enduction

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**Textile gluing-lamination application**

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**Adhesion evaluation of a gluing-lamination: peel test of a thermosealed film**

- Customer requirement exceeded with Plasma 2 and 3
- Plasma performances higher than Corona
- Durable properties

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**Textile enduction application**

- Excellent adhesion after enduction for Plasma 2
- Atmospheric plasma performances higher than low pressure plasma

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**Cleaning efficiency in function of plasma dosage (XPS analysis)**

- Plasma dosage
- Chemistry optimisation > cleaning improvement

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**Peeling resistance of the enduction**

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**Peeling resistance of the lamination**

- Best results for adhesion: Low pressure O₂ plasma and atmospheric plasma 1