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Ph.D. thesis (2022-2025)
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Modification of the properties of polymer surfaces by an environmentally friendly printable coating

Modification des propriétés de surfaces polymères par un vernis imprimable respectueux de l'environnement

FunPrint

Thèse confidentielle

Context / Objectives

Coatings industry – Textile field

Textile personalization

- Demand used to grow up the last decade
- Customers always want new design in every area
- Clothing manufacturers are looking for new solutions



Use of a lot of dangerous products for both human health and environment

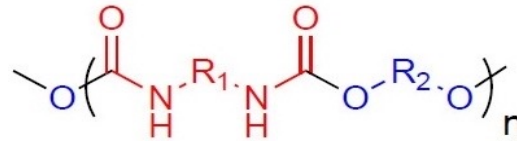
Objectives : Create a new coating that respects :

- the same requirements and industrial constraints than solvent-based product
- the environment, labels, laws and human health

Funded by:  
In collaboration with Chomarat Textiles Industries

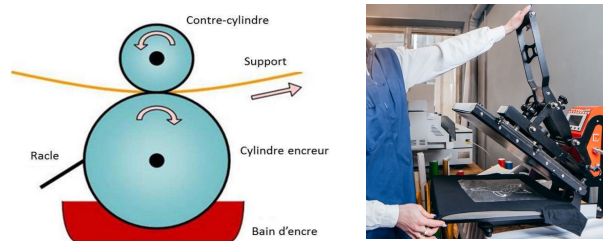
Methods

Formulation with polymer and additives



Rotogravure/reverse coating

Transfert with heat and pressure on textile



Surface/interface/interphase characterizations

- Optical/mechanical roughness measurements
- Contact angle measurements
- Chemical composition : XPS/TOF-SIMS/RMN
- Mechanical properties

Results

