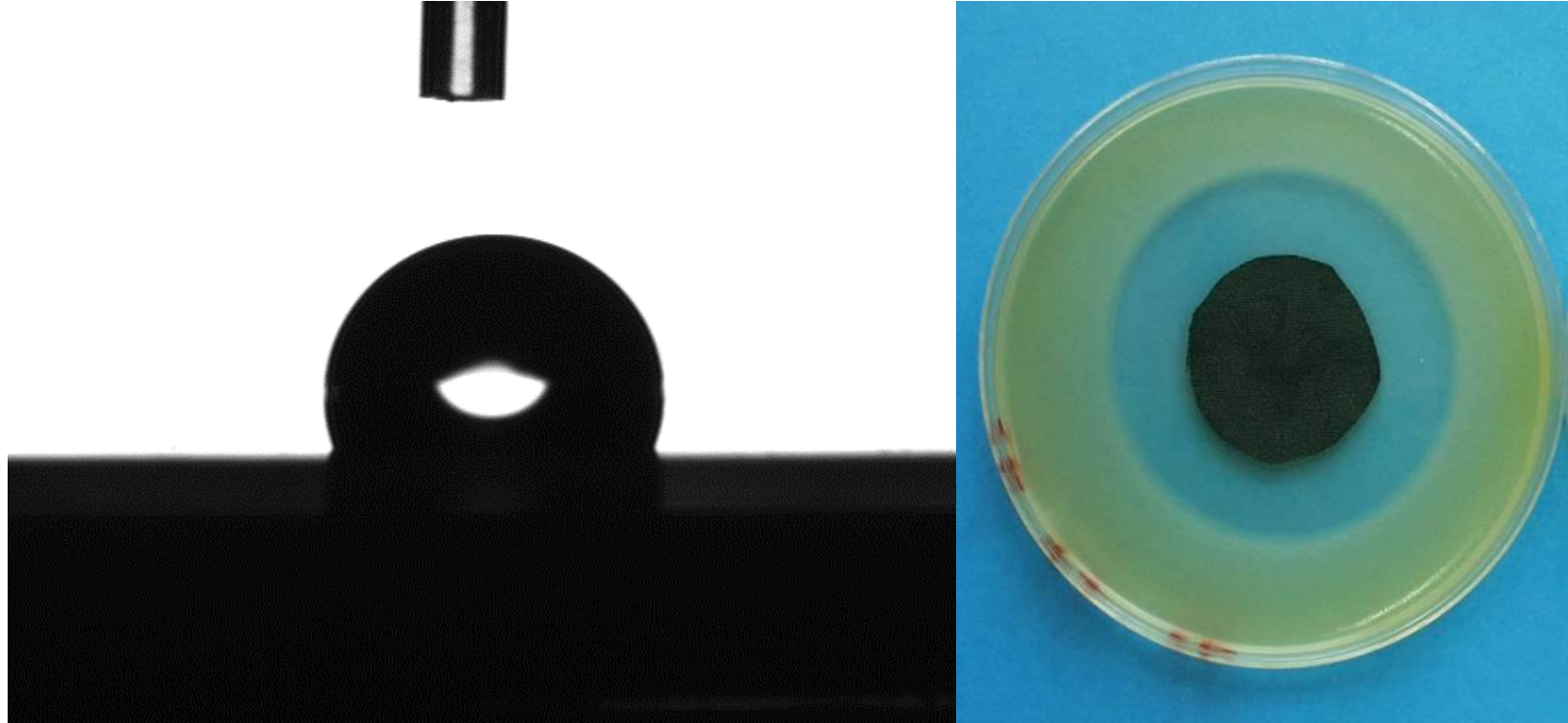




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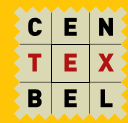


GoToS3
DURATEX

Avec le soutien du Fonds européen
de Développement Régional
Met de steun van het Europees
Fonds voor Regionale Ontwikkeling

Duratex project

David De Smet



Duratex

- » *Water and oil repellent as well as antimicrobial textiles for building and architectural applications*
- » *Interreg V project France-Wallonia-Flanders*
- » *1/07/2016 – 30/09/2020*

DURATEX

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Financing

» *Duratex project wordt is financed within the Interreg V France-Wallonia-Flanders program (<http://www.interreg-fwvl.eu/nl>), a transborder collaboration program with financial support of the European Funds for regional development with cofinancing by Wallonia and the province West-Flanders*

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Need?

- » *Pressure from environmental organisations and consumer*
- » *Legislation*
 - > *Biocide regulation 528/2012*
 - > *REACH regulation (fluorocarbons)*
- » *Label e.g. Oeko-Tex*



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Oeko-Tex

PFC's, Per- and polyfluorinated Compounds/Per- und polyfluorierte Verbindungen ^{11,19}				
PFOS, PFOSA, PFOSE, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE; Sum/Summe[µg/m ²]	<1.0	<1.0	<1.0	<1.0
PFOA[µg/m ²]	<1.0	<1.0	<1.0	<1.0
PFHpA[mg/kg]	0.05	0.1	0.1	0.5
PFNA[mg/kg]	0.05	0.1	0.1	0.5
PFDA[mg/kg]	0.05	0.1	0.1	0.5
PFUdA[mg/kg]	0.05	0.1	0.1	0.5
PFDoA[mg/kg]	0.05	0.1	0.1	0.5
PFTTrDA[mg/kg]	0.05	0.1	0.1	0.5
PFTeDA[mg/kg]	0.05	0.1	0.1	0.5
Further Perfluorinated carbonic acids, each; according to Annex 5/je; gemäß Anhang 5[mg/kg]	0.05			
Perfluorinated sulfonic acids, each; according to Annex 5/je; gemäß Anhang 5[mg/kg]	0.05			
Partially fluorinated carbonic / sulfonic acids, each; according to Annex 5/je; gemäß Anhang 5[mg/kg]	0.05			
Partially fluorinated linear alcohols, each; according to Annex 5/je; gemäß Anhang 5[mg/kg]	0.50			
Esters of fluorinated alcohols with acrylic acid, each; according to Annex 5/je; gemäß Anhang 5[mg/kg]	0.50			



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Target group

» Target companies are involved in:

- > *Coating*
- > *Extrusion*
- > *Chemical additives*
- > *Technical textile and interior textiles*

» *All other companies looking for water and oil repellent and/or antimicrobial textile*



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Transborder collaboration

» *Necessary to realise the objectives*

» *Partners*

> *Centexbel (FL)*

> *Certech (WL)*

> *Ceti (FR)*

> *Ensait (FR)*

> *UCL (WL)*

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certech

CETI PRODUCT
INSIGHT
DESIGN YOUR TEXTILE SOLUTIONS

ensait

UCL
Université
catholique
de Louvain

Transborder collaboration

- » Centexbel
 - > *Coordinator*
 - > *Applying biobased antimicrobial products via coating and finishing*
 - > *Assistance in developing superhydro- and oleophobic formulation and application*
- » Certech
 - > *Development of superhydro- and oleophobic formulation*
- » Ceti
 - > *Applying biobased antimicrobials via extrusion on pilot scale*
- » Ensait
 - > *Applying biobased antimicrobials via extrusion and diffusion*
- » UCL
 - > *Development of superhydro- and oleophobic formulation*



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Results

» *Antimicrobial textiles*

- > *Coating/Finishing*
- > *Diffusion*
- > *Extrusion*

» *Superhydro- and oleophobicity*

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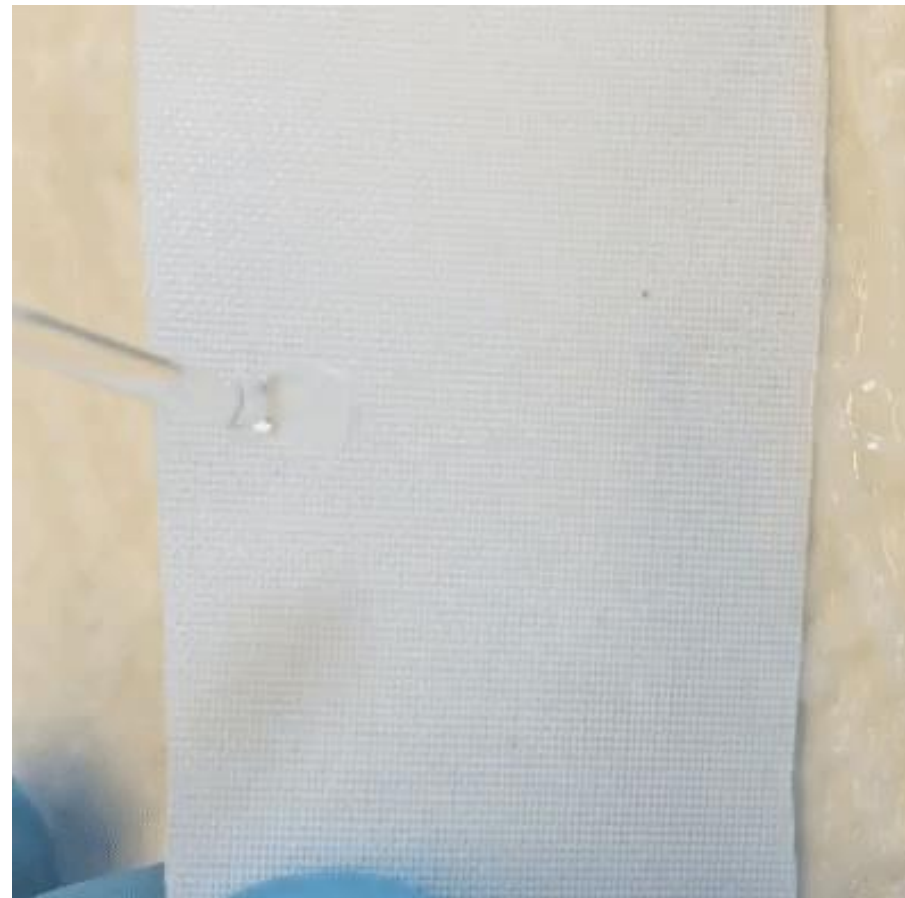
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Development

» Fluorfree superhydrophobic finish



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Development

» Omniphobic C6 and C8 free formulation

Water (10 μ l)
contact/ roll-off angle ($^{\circ}$)

144 / 5-7



Olive oil (10 μ l)
contact/ roll-off angle ($^{\circ}$)

144 / 13-18



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Fabric roughness

10 fabrics
selected

roughness

1.85



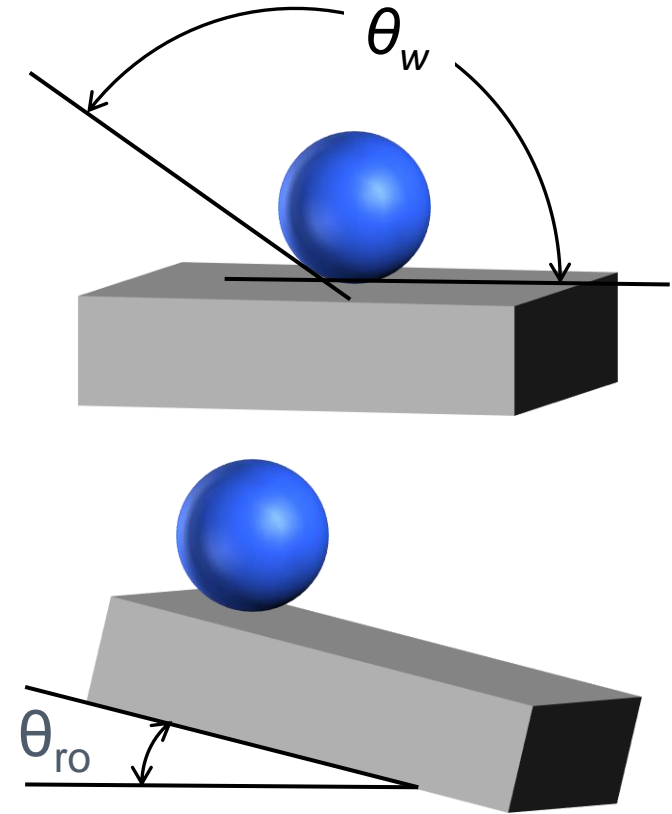
1.15

Dip-coated by 5
aqueous
formulations

Short perfluoroalkyl
chains (C4)

Silicone

Wax



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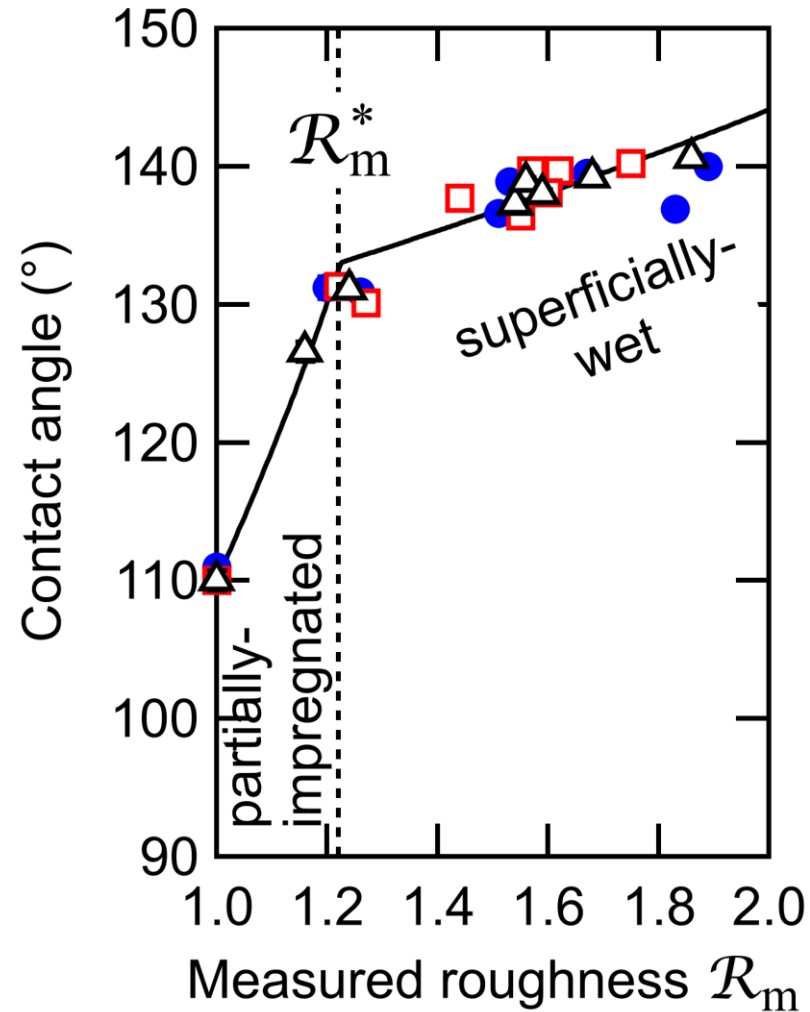
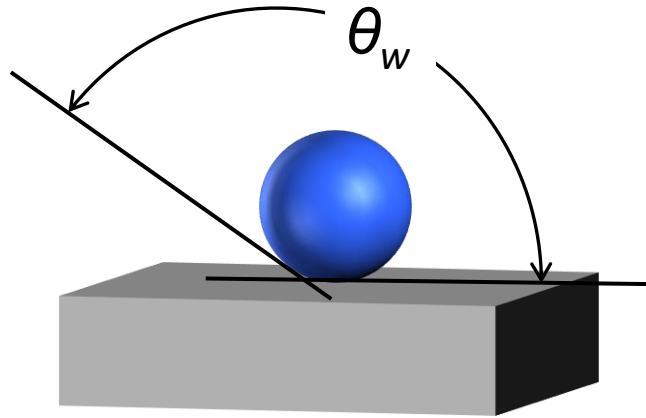
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Fabric roughness

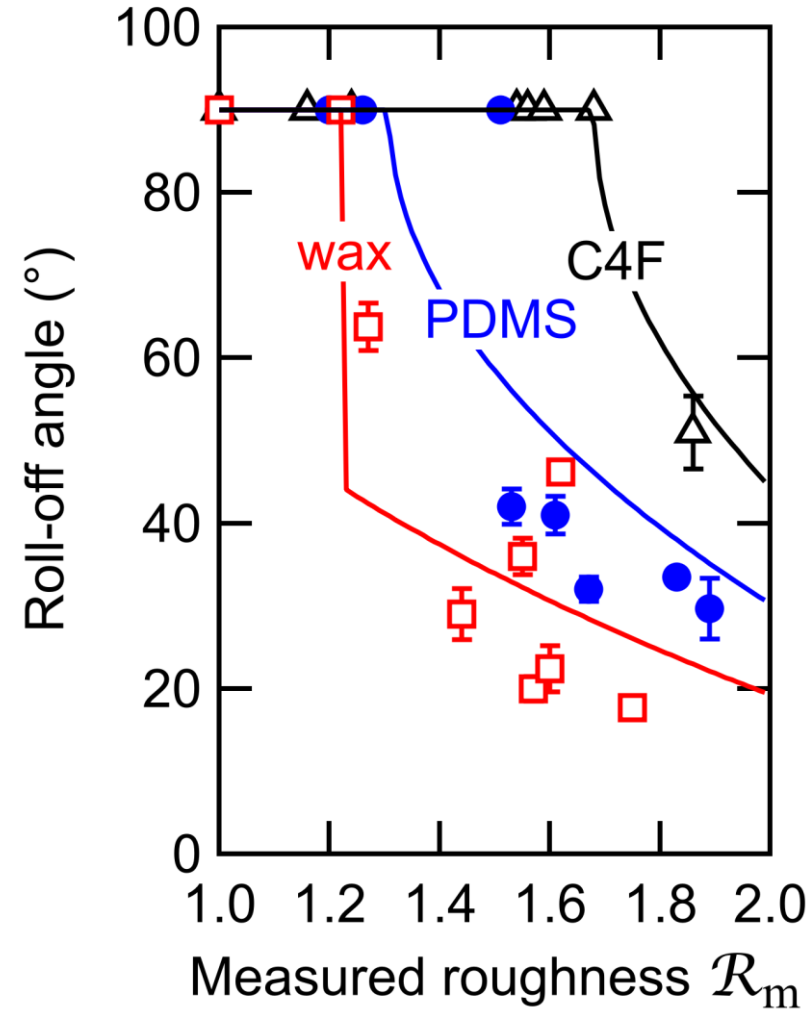
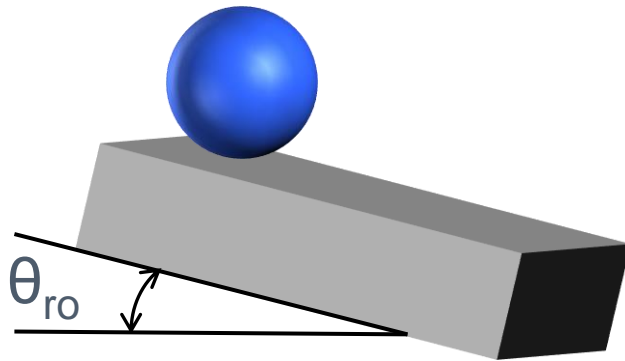


Short perfluoroalkyl chains (C4)

Silicone

Wax

Fabric roughness



Short perfluoroalkyl chains (C4)
Silicone
Wax

Acknowledgement

DURATEX

Projet soutenu par
Project ondersteund door

Interreg 
France-Wallonie-Vlaanderen UNION EUROPÉENNE
EUROPESE UNIE



Recherche et innovation
Onderzoek en innovatie

Plus d'infos
Meer info

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Avec le soutien du Fonds européen de développement régional
Met steun van het Europees Fonds voor Regionale Ontwikkeling

