

Interreg

France-Wallonie-Vlaanderen



UNION EUROPÉENNE
EUROPESE UNIE

www.interreg-fwvl.eu

@InterregFWVL

GoToS3

Elasto-Plast

Elasto-plast

Van conventionele tot slimme thermoplastische elastomeren

Les elastomères thermoplastiques, depuis les conventionnels à ceux de seconde génération

Opschuimen van TPEs / Le rebullage des TPEs

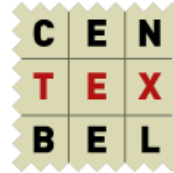


Cofinanciering





Projectleider Chef de projet



Partners Partenaires

Université
de LilleUNIVERSITÉ
DE REIMS
CHAMPAGNE-ARDENNEMINES
Douai

ARMINES

MateriaNova
MATERIALS R&D CENTRE

KU LEUVEN

Geassocieerde partners Partenaires associés



PLASTICS INNOVATORS

smatikem
DE L'IDEE AU MARCHÉmaterialia
Pôle de Compétence Matériaux

Inleiding - *Introduction*

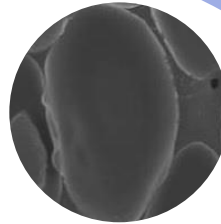


Inleiding - *Introduction*



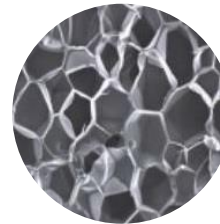
Macro

> 100 μm



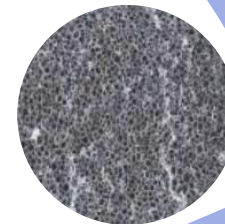
Fine

10-100 μm



Micro

1-10 μm

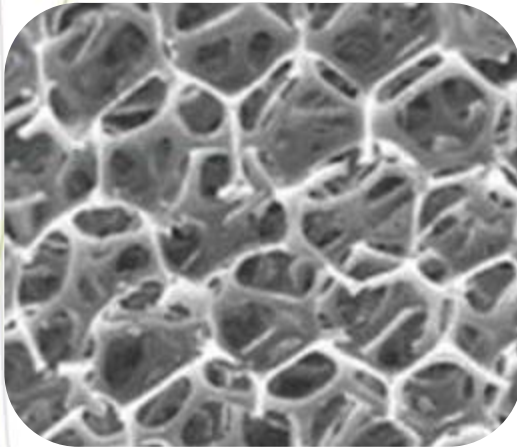


Nano

< 1 μm

Inleiding - *Introduction*

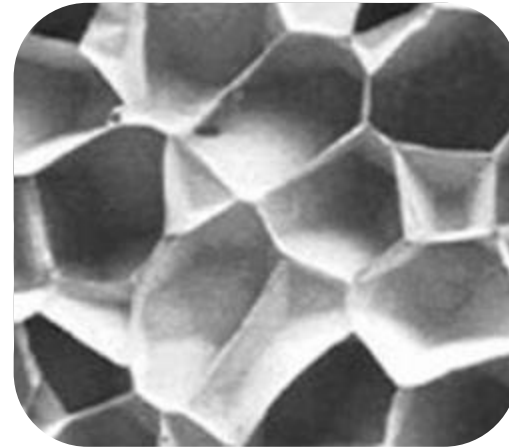
Open/Ouvert



Lagere densiteit/*densité basse*



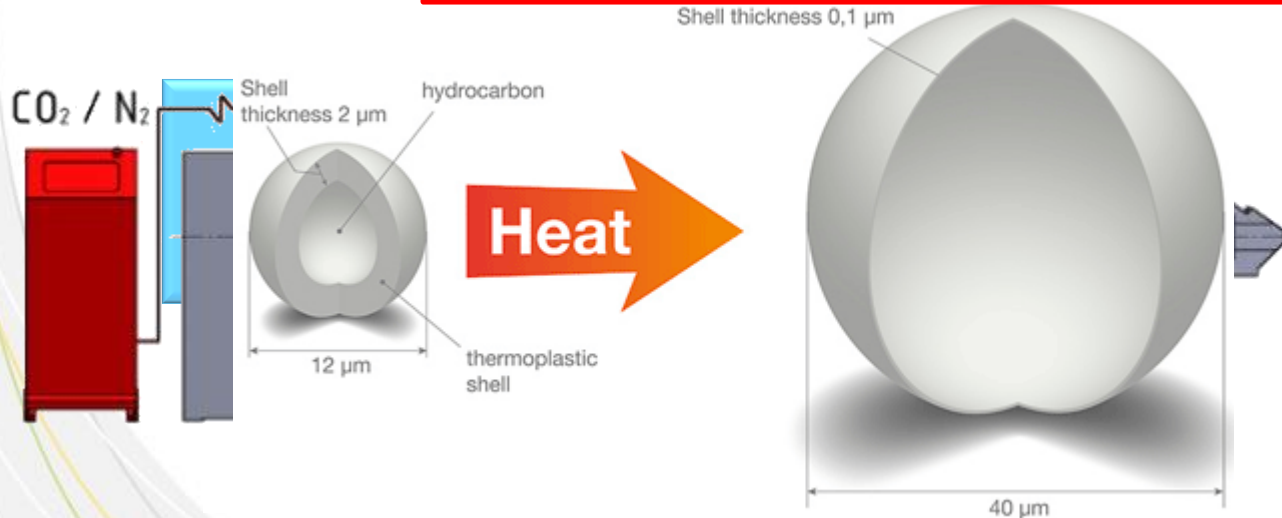
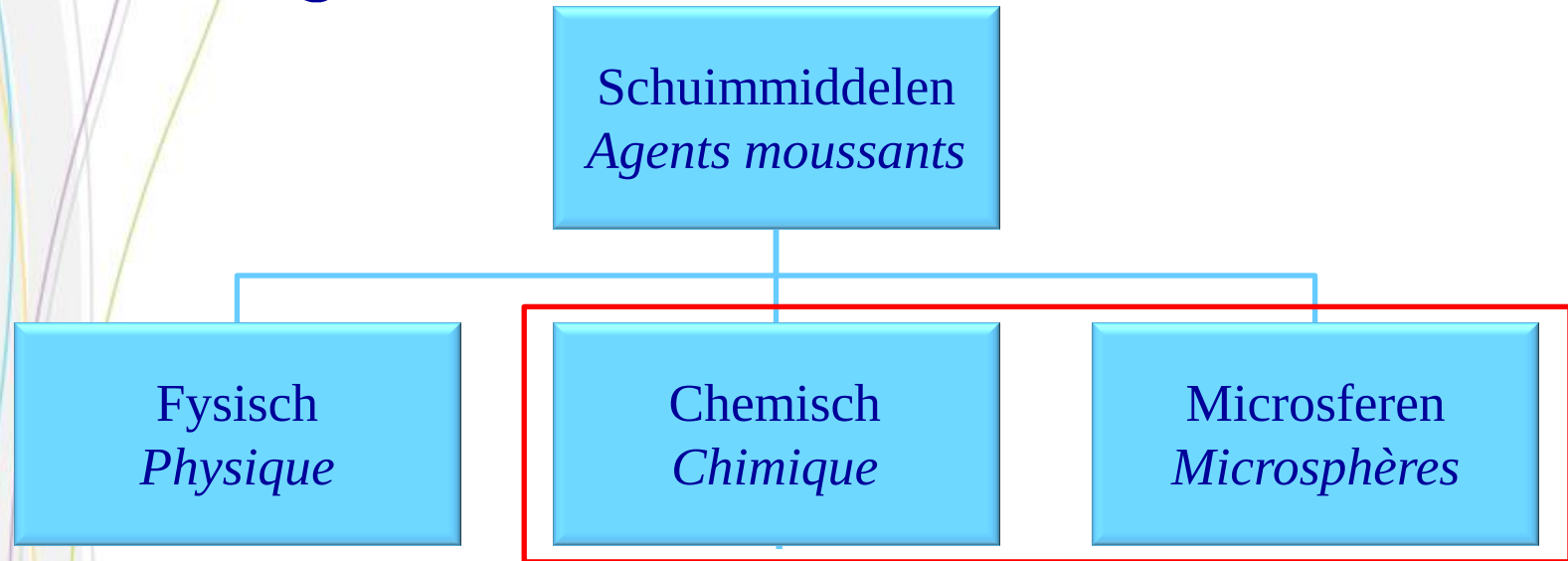
Gesloten/Fermé



Hogere densiteit/*densité élevée*

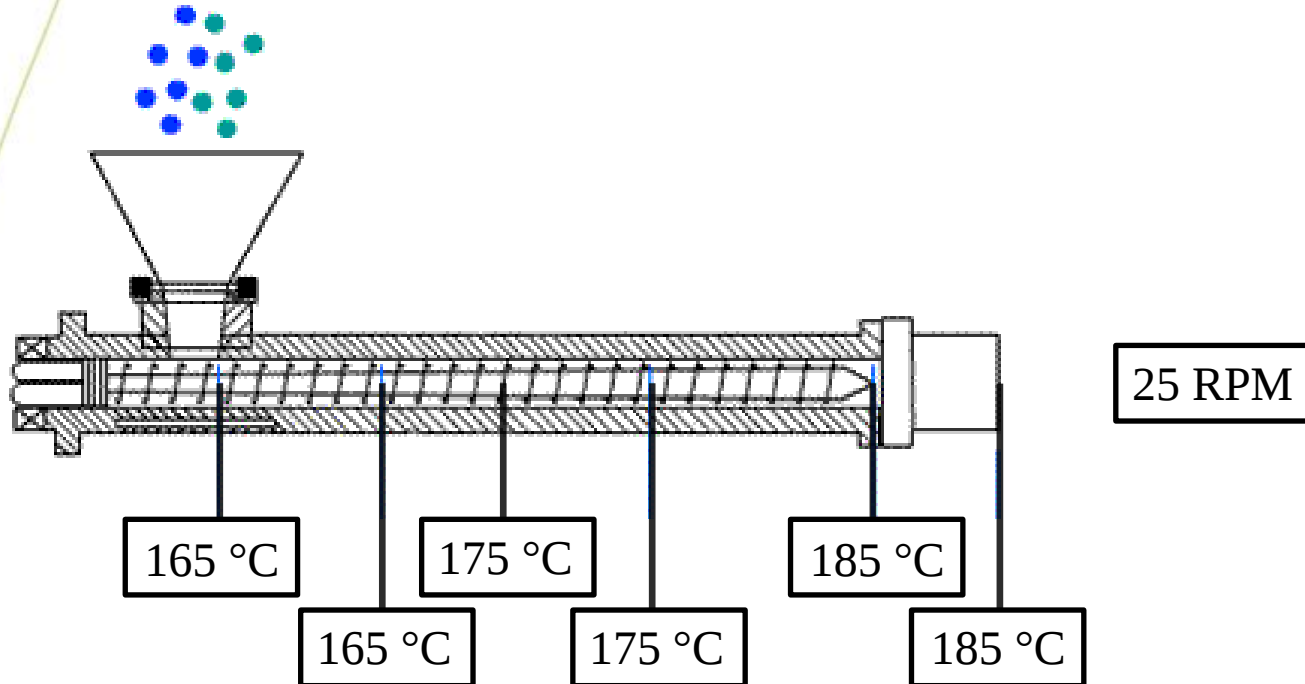


Inleiding - *Introduction*



Extrusie - *Extrusion*

$L/D = 30:1$



Engage

Polyolefin Elastomers: 81 shore A

Schuimmiddel

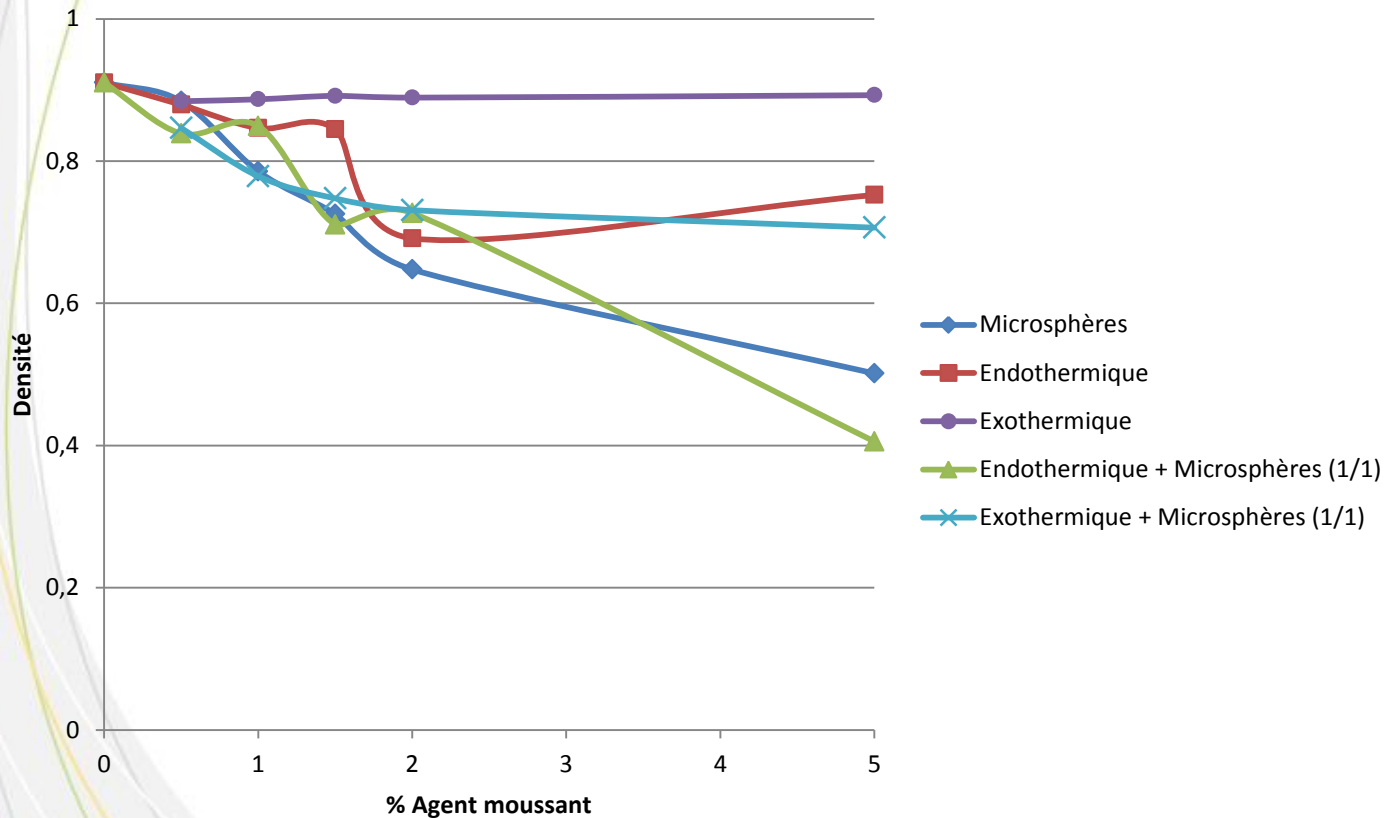
Endotherm, exotherm, microsferen & combinatie

Agents moussant

Endothermique, exothermique, microsphères et combinaisons

Resultaten - Résultats

Densiteit in functie van concentratie aan schuimmiddel
Densité en fonction de concentration d'agent moussant



Resultaten - Résultats

SEM

Microscopie électronique à balayage

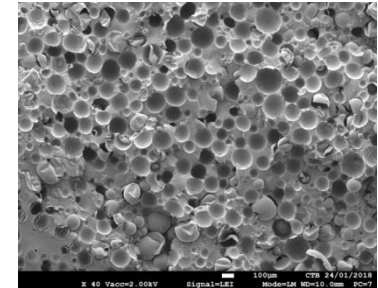
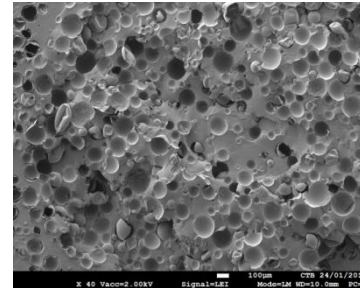
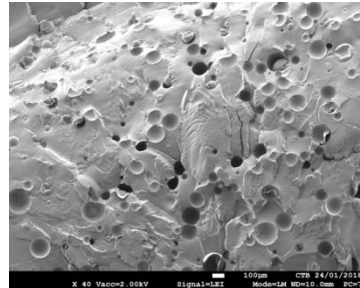
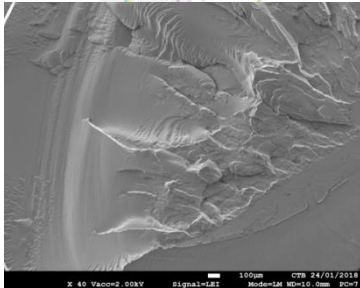
0 %

1 %

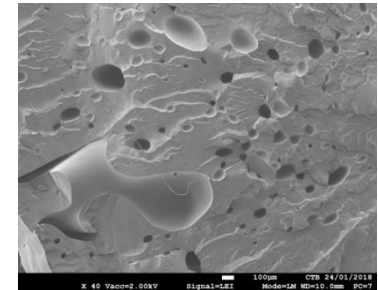
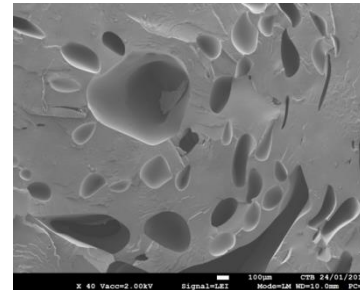
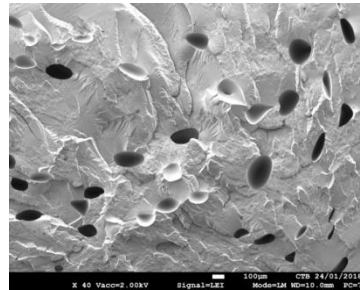
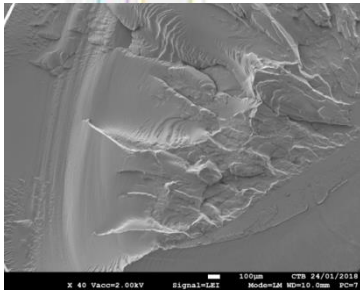
2 %

5 %

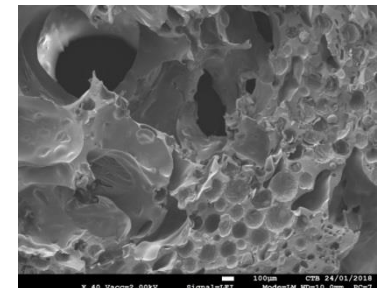
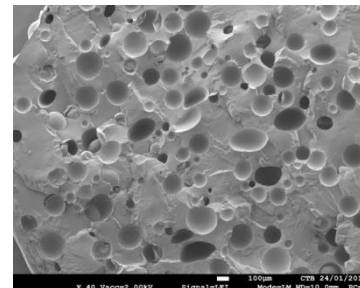
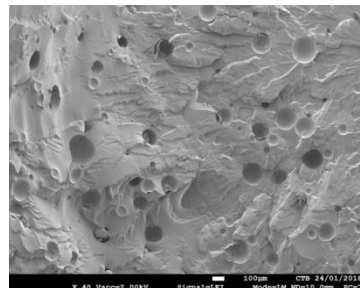
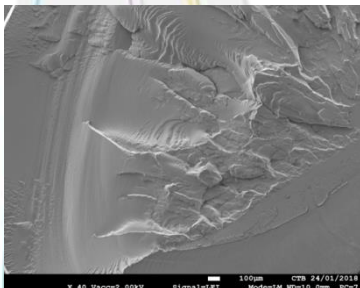
Microsphères



Endothermique



(1) + (2)



Resultaten - Résultats

SEM

Microscopie électronique à balayage

0 %

1 %

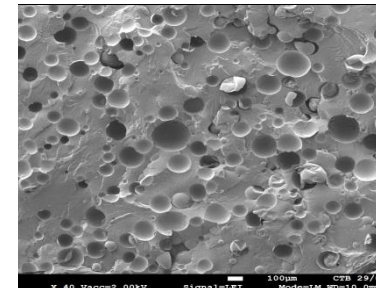
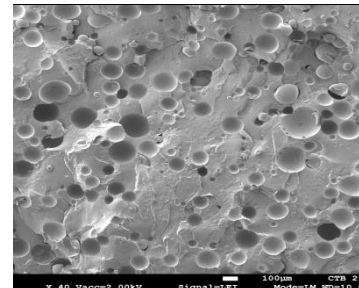
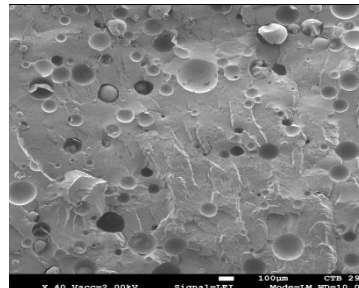
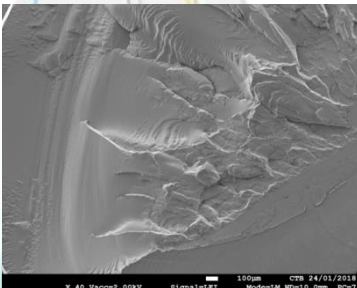
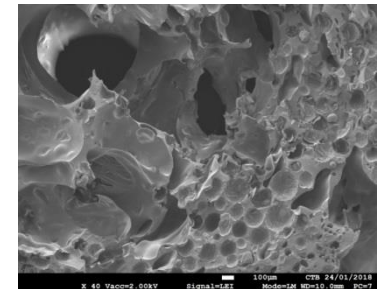
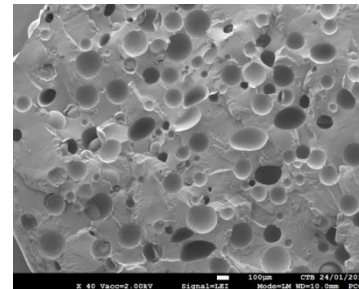
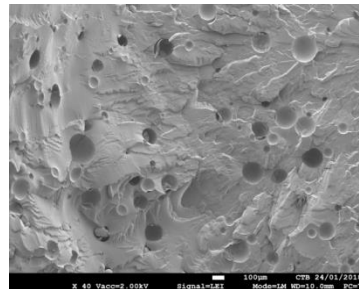
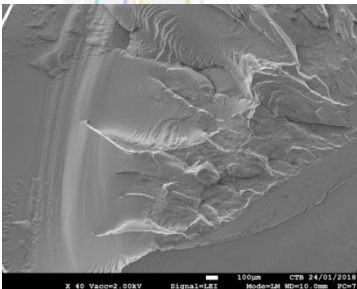
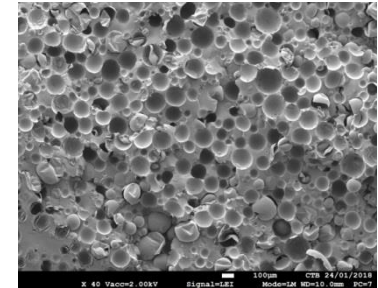
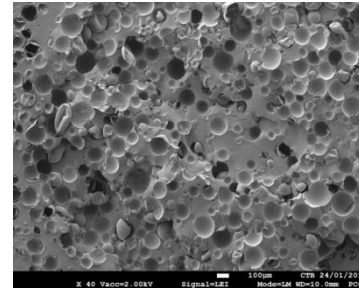
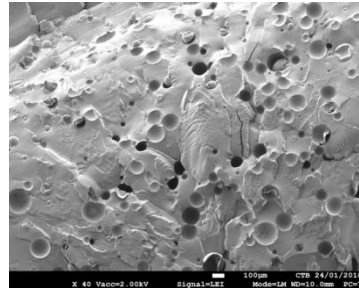
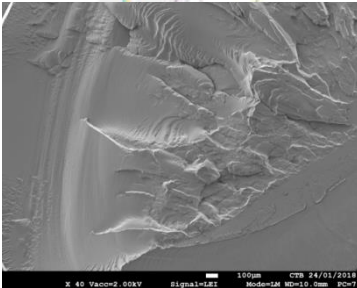
2 %

5 %

Microsphères

(1) + (2)

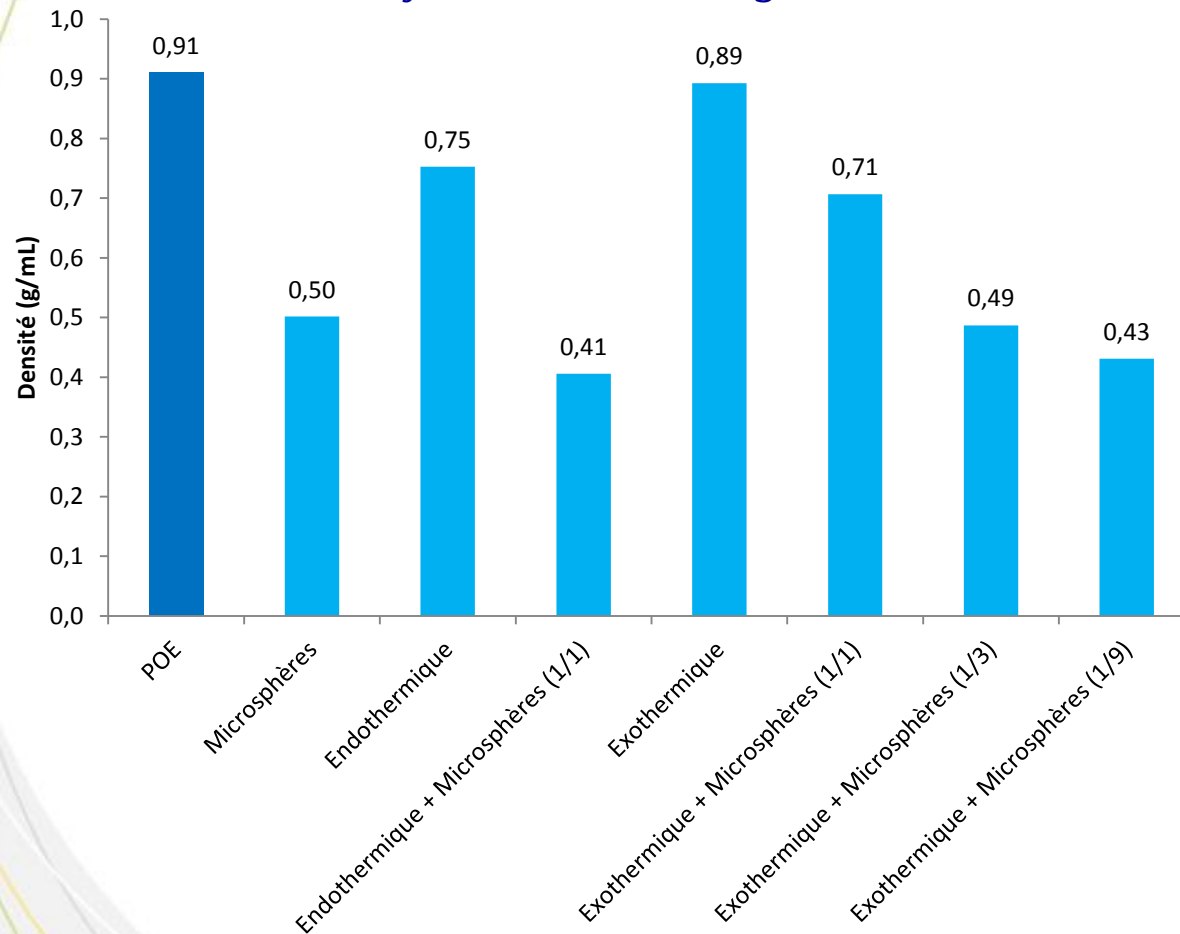
(1) + (3)





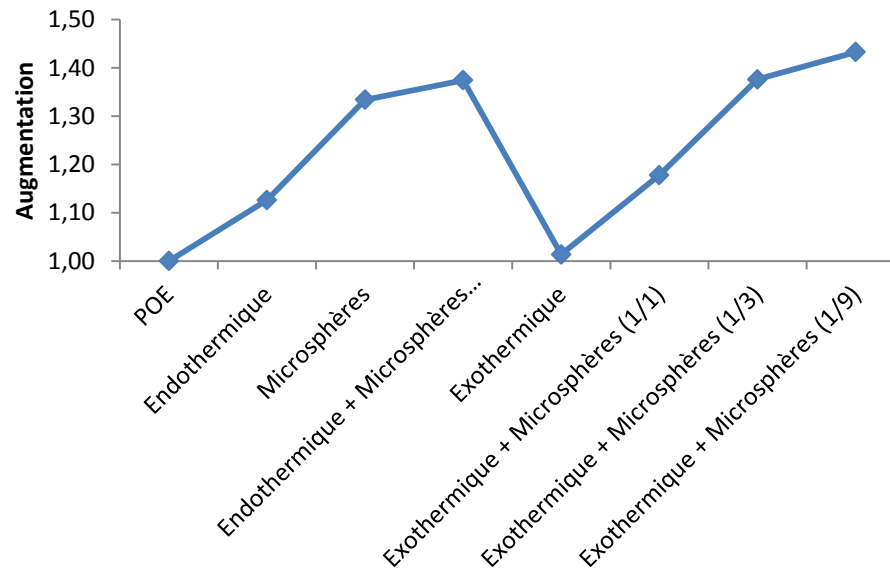
Resultaten - Résultats

Dichtheid in functie van 5% schuimmiddel
Densité en ajoutant 5% d'un agent moussant



Resultaten - Résultats

Expansie in functie van 5% schuimmiddel
Augmentation en fonction de 5% d'un agent moussant



Conclusies - Conclusions

Beste resultaten met microsferen
Meilleurs résultats en ajoutant microsphères

Endotherm schuimmiddel: coalescentie vanaf 2%
Agent moussant endothermique: coalescence à partir d'une concentration de 2%

Combinatie exotherm schuimmiddel en microsferen:
Verandering van verhouding → densiteitsreductie tot 0,43 g/mL
grotere expansie

Agent moussant exothermique et microsphères:
Modification de ratio → réduction de densité jusqu'à 0,43 g/mL
augmentation plus élevée



Interreg

France-Wallonie-Vlaanderen



UNION EUROPÉENNE
EUROPESE UNIE

www.interreg-fwvl.eu

 @InterregFWVL

GoToS3

Elasto-Plast



Cofinanciering



met de steun van
west-vlaanderen
de gedreven provincie



Wallonie



**AGENTSCHAP
INNOVEREN &
ONDERNEMEN**