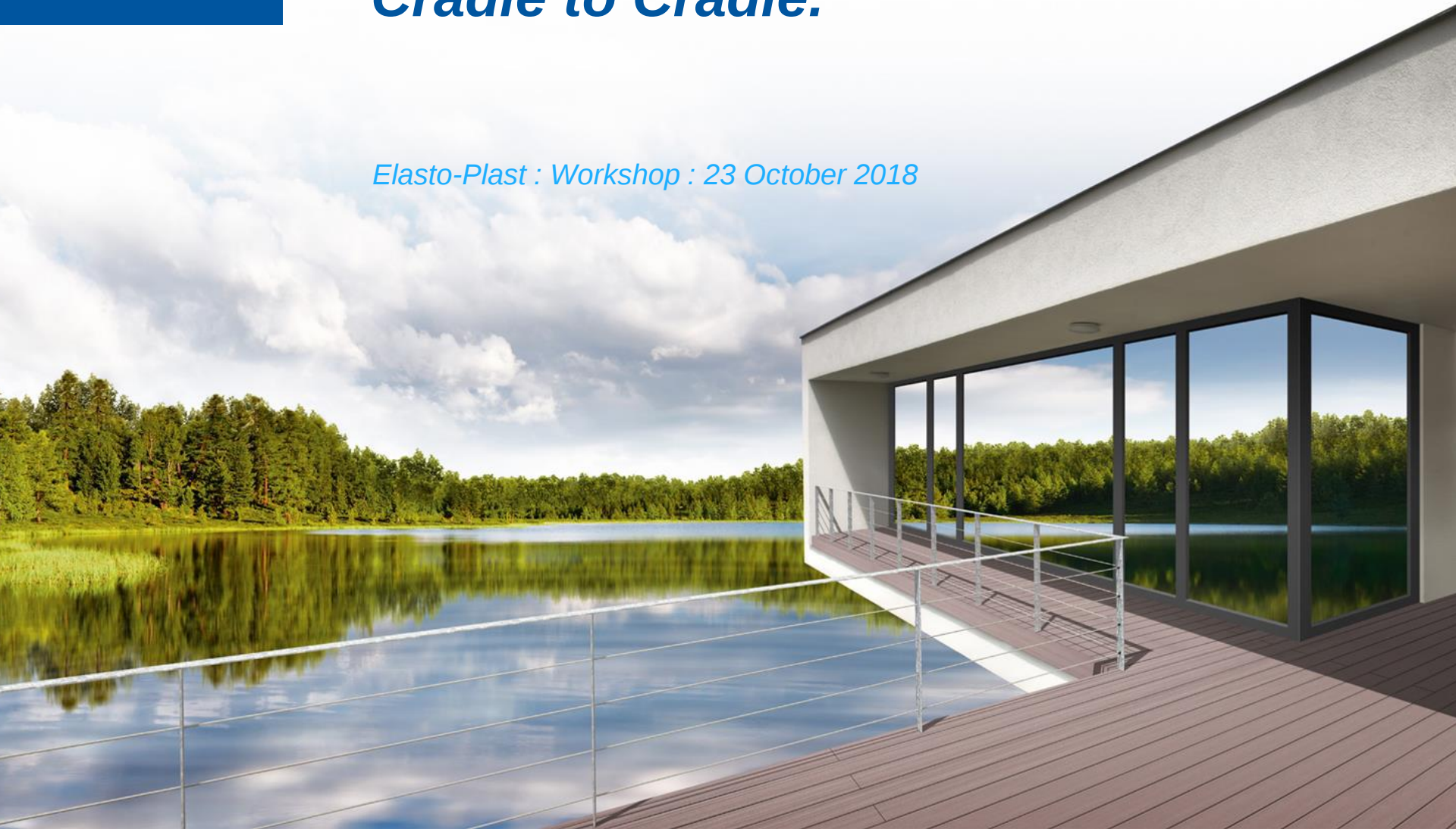


deceuninck

Gaskets and Seals Cradle to Cradle.

Elasto-Plast : Workshop : 23 October 2018



Gaskets and Seals : Cradle to Cradle

1. Introduction to Deceuninck
2. Circular economy @ Deceuninck
3. Gaskets and seals : History
4. Gaskets development
 1. Design
 2. Raw Materials
 3. Recycling
 4. Reuse
5. Future developments.

- Group Deceuninck Today
- Ecology: one of our core-values
- Deceuninck building towards a circular economy



Deceuninck is the 3^e biggest producer of PVC window & door systems and building products.



3,800
medewerkers



4,000
klanten



€687 miljoen
omzet in 2017



Hoofdzetel
Hooglede-
Gits
België

Verkoop in
meer dan
90
landen

Productie
in
12
landen

Revenue – product groups

Window & Door-systems



85%

Home protection



5%

Outdoor living



10%

Our brands

deceuninck

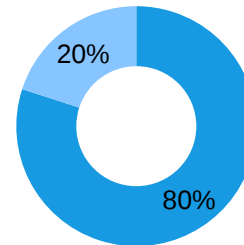
PiMAPEN

ECUPEN
deceuninck

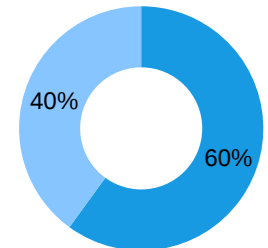
winsa®
PVC PENCERE • KAPI • PANJUR SİSTEMLERİ

INOUTIC

Market segments

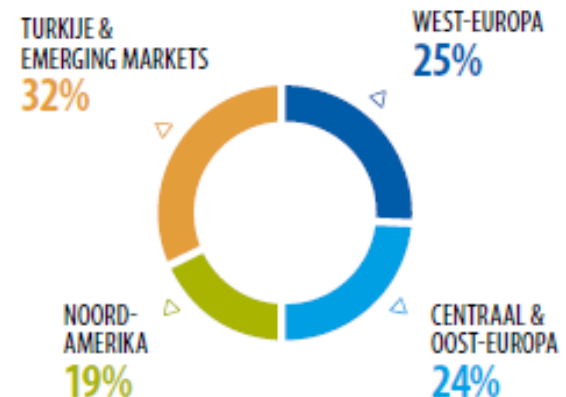


■ Residentieel ■ Niet-residentieel



■ Renovatie ■ Nieuwbouw

Revenue – 2017 - regions



Gasket production : Belgium, Turkey & Russia.

Glazing-beads : ALL extrusion plants.



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medewerkers



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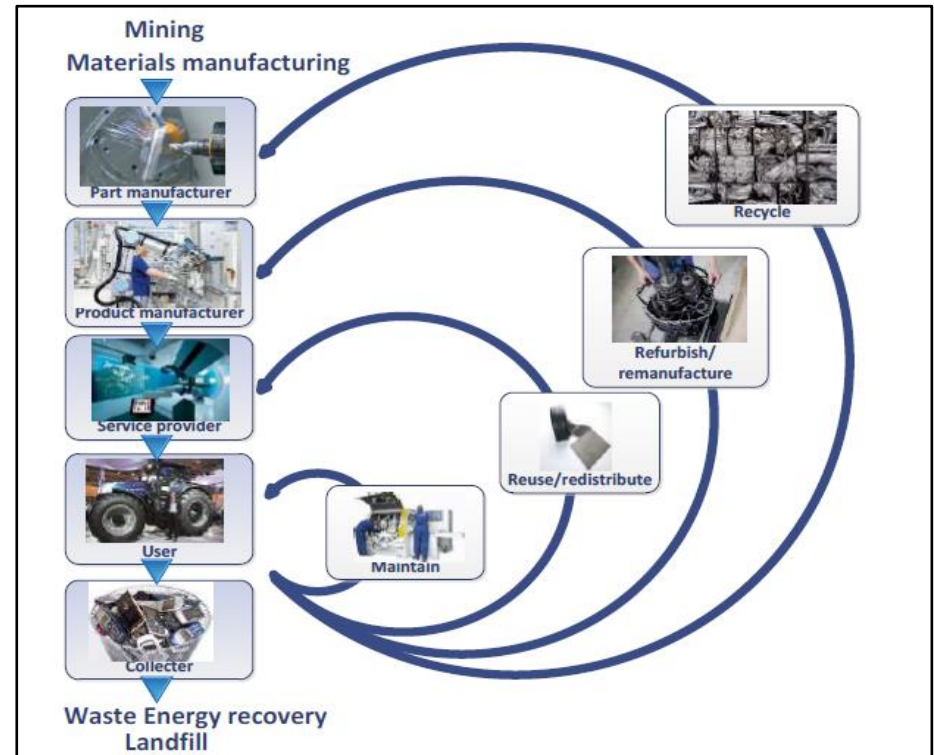
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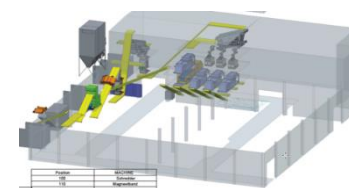
Recycling Post Consumer Proces flow



Sourcing & collection



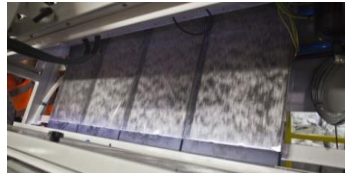
Stock at Diksmuide



Shredding and pre sorting



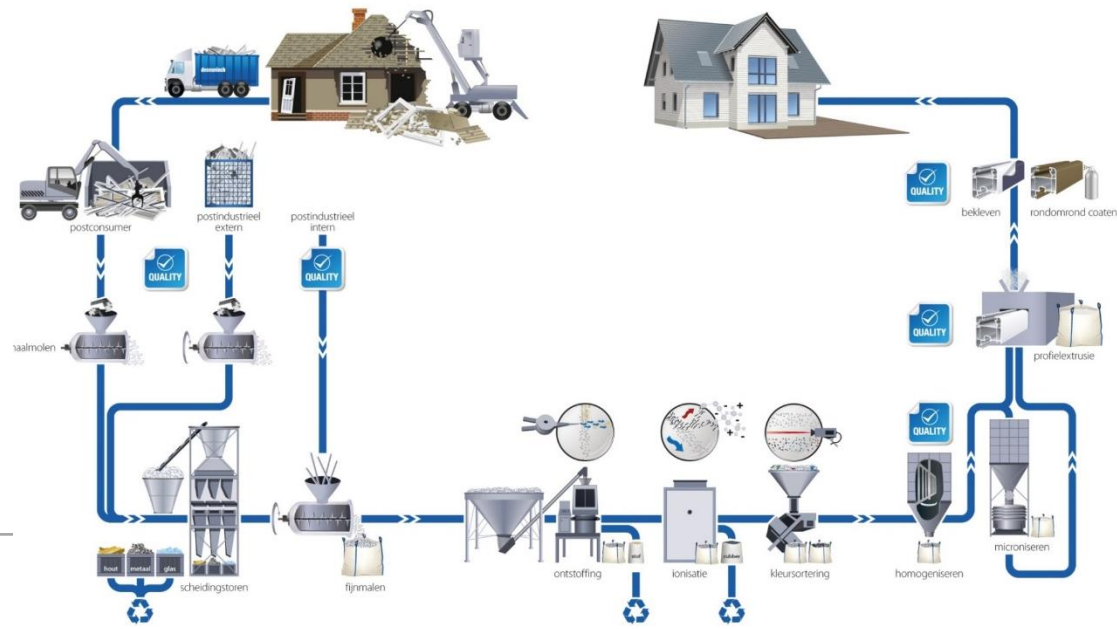
Fine grinding



Post sorting and color separation



Raw material for production

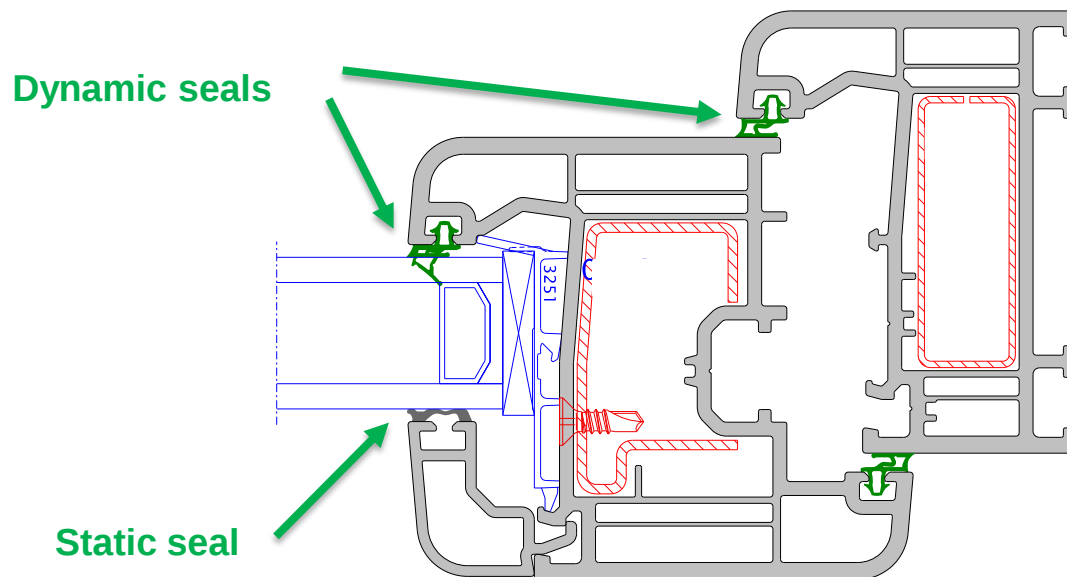


Gaskets and Seals : Cradle to Cradle

1. Introduction to Deceuninck
2. Circular economy @ Deceuninck

3. Gaskets and seals : History

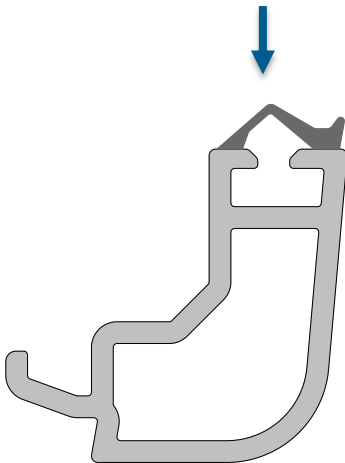
1. '60 – '80' : silicone seal and EPDM Rubber
2. '70 - '80 Glazing beads – Soft PVC (coextrusion)
3. '90 TPE-seals (TPV)
4. '00 TPE-seals – (TPE-S)
5. Ongoing Bi-extrusion, tri-extrusion, Quadruple extrusion



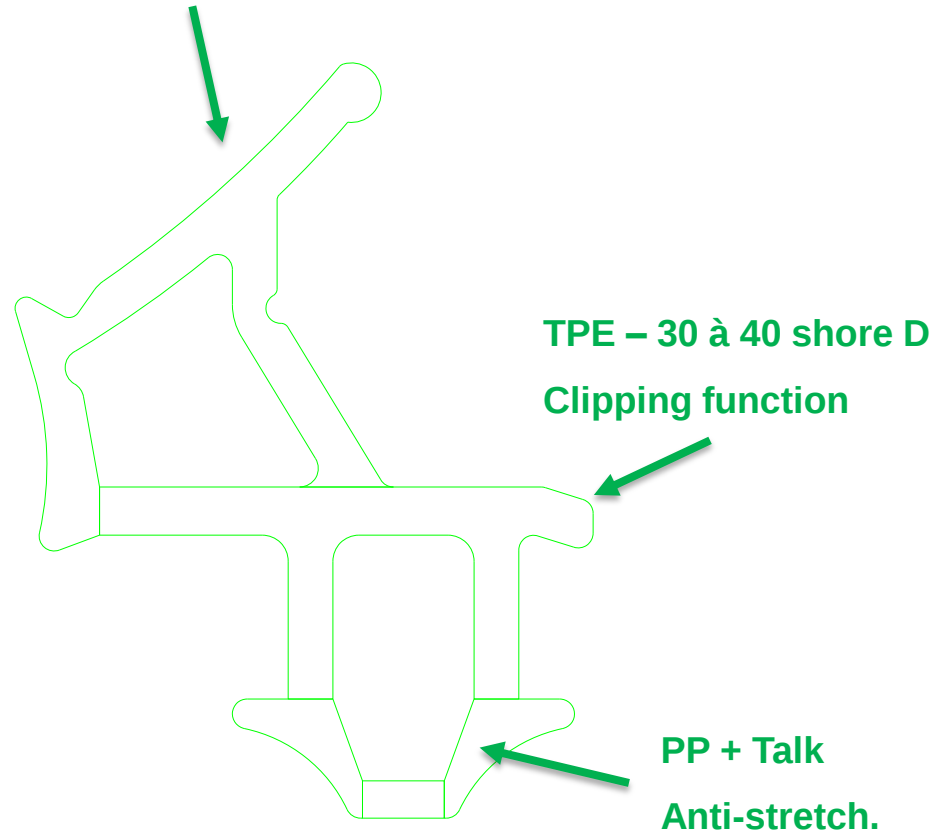
Gaskets and Seals : Cradle to Cradle

1. Introduction to Deceuninck
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4. **Gaskets development**
 1. Design for functionality incorporates recycling
 2. Raw Materials
 3. Recycling
 4. Reuse

Soft PVC – 60 à 70 Shore A



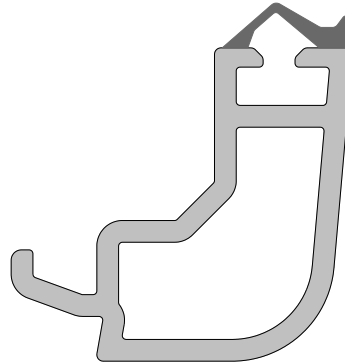
TPE – 60 à 70 shore A : Sealing function



Gaskets and Seals : Cradle to Cradle

4. Gaskets development

1. Design
2. Raw Materials
3. Recycling : soft PVC
4. Reuse



Low cost countries

- Cut of soft PVC
- Granulation
- Re-use



Other countries

- Grinding
- Granulation with filtration
- Re-use in rigid PVC profiles.

Gaskets and Seals : Cradle to Cradle

4. Gaskets development

1. Design
2. Raw Materials
3. **Recycling**
 1. Post-industrial : Extrusion of Gaskets
 2. Post-industrial : Rolling in the gasket
 3. Post-fabricator
 4. Post-consumer

Materials of the same family

Material 1 : Certified CSTB, SKZ, BSI,...

No recycling possible

Material 2 : TPO

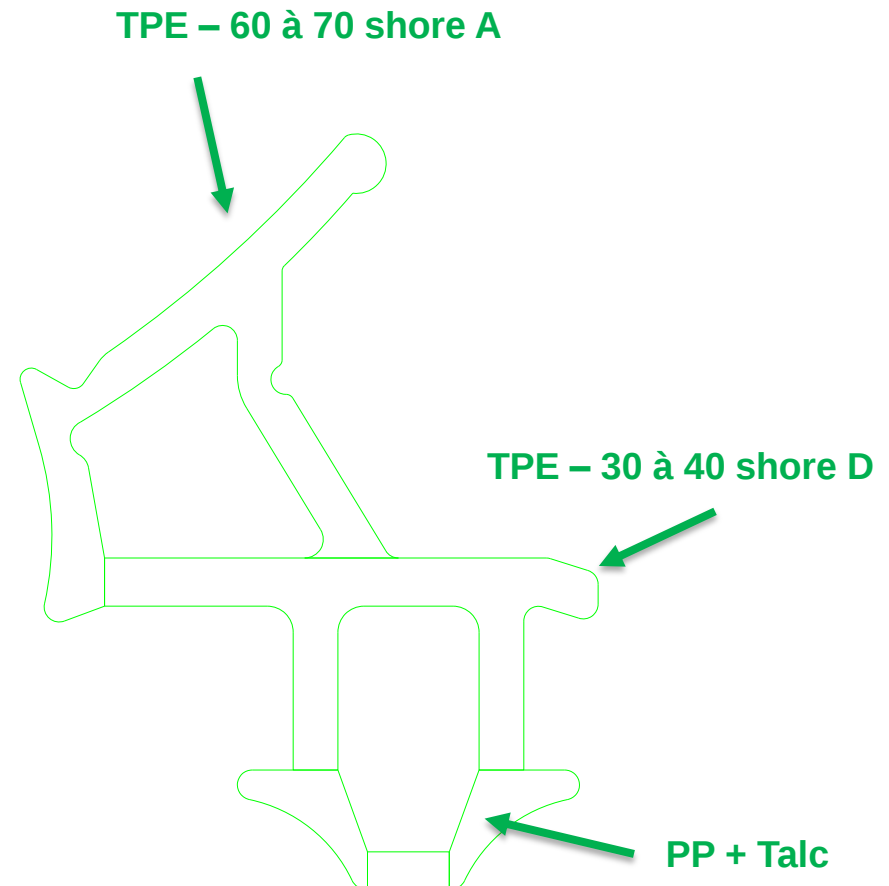
SEBS or SBS based

TPO

... recycled materials are possible

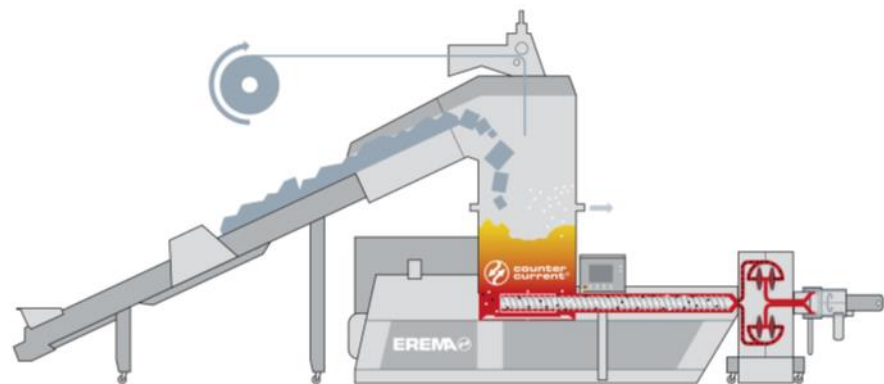
Material 3 : PP + Talc (Anti-stretch)

Recycling possible.



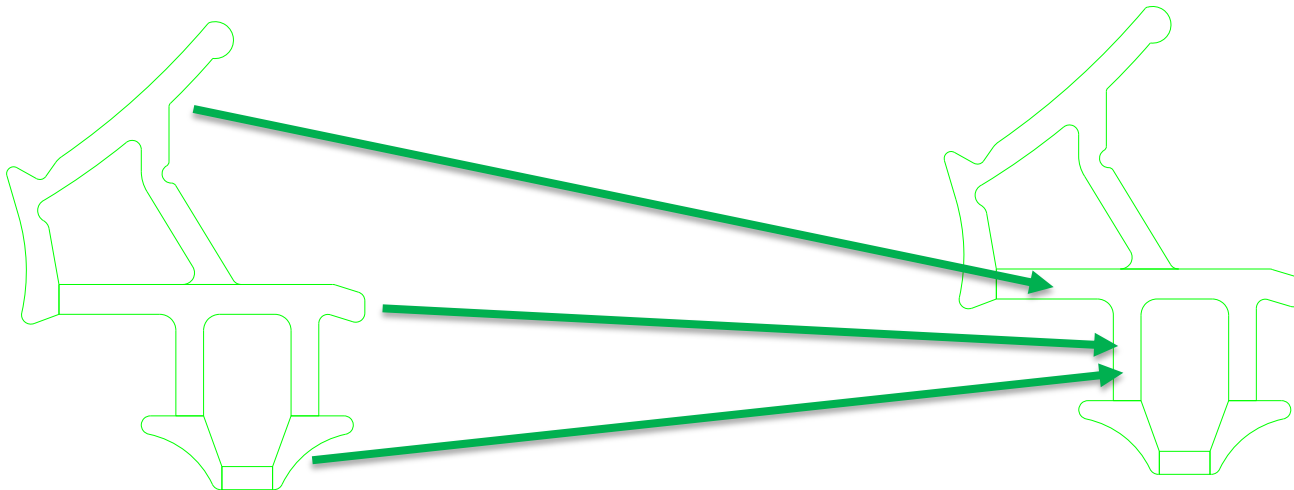
Gaskets and Seals : Cradle to Cradle

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4. **Gaskets development**
 1. Design : incorporates recycling
 2. Raw Materials
 3. **Recycling - TPE**
 4. **Reuse**



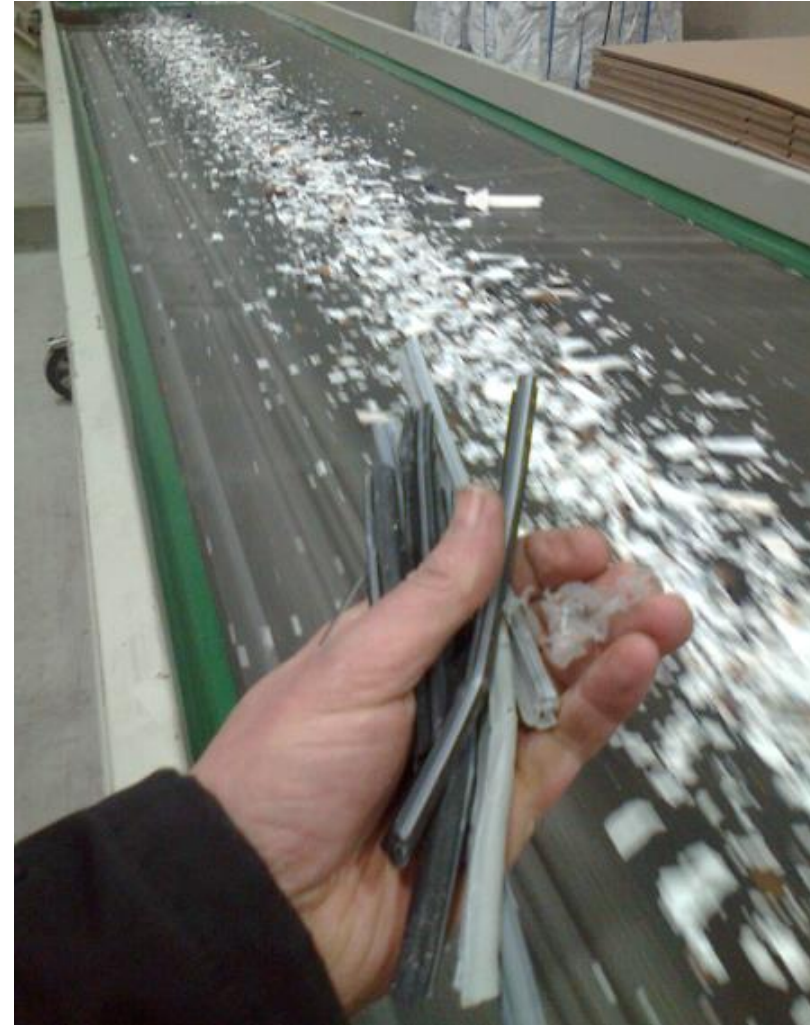
Gaskets and Seals : Cradle to Cradle

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4. **Gaskets development**
 1. Design : incorporates recycling
 2. Raw Materials
 3. Recycling
 4. **Reuse :**
 1. Standard 30 % recycled
 2. Up to 100 % is possible.



Gaskets and Seals : Cradle to Cradle

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4. Gaskets development
5. **Future developments.**
 1. Recycling
 1. Post-industrial : Extrusion of Gaskets
 2. Post-industrial : Rolling in the gasket
 3. **Post-fabricator : cut off - window-manufacturer"**
 4. **Post-consumer ... sorting Silicon, EPDM and TPE ?**



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Gaskets and Seals Cradle to Cradle.

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Q & A

