

REDWAVE[®]

RECYCLING & WASTE TREATMENT SOLUTIONS



Sorting Technology

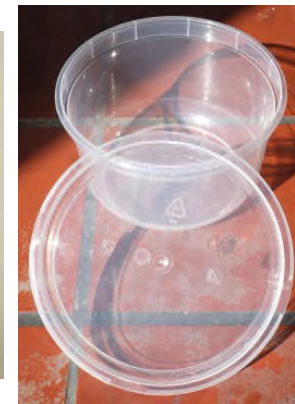
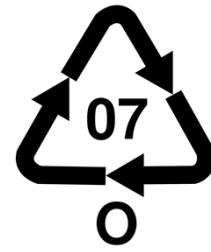
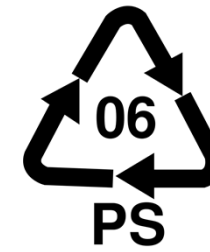
Content

- Plastic waste
- NIR - theory
- NIR Sorters made by REDWAVE
- Applications of NIR sorting
- Other sorting machines



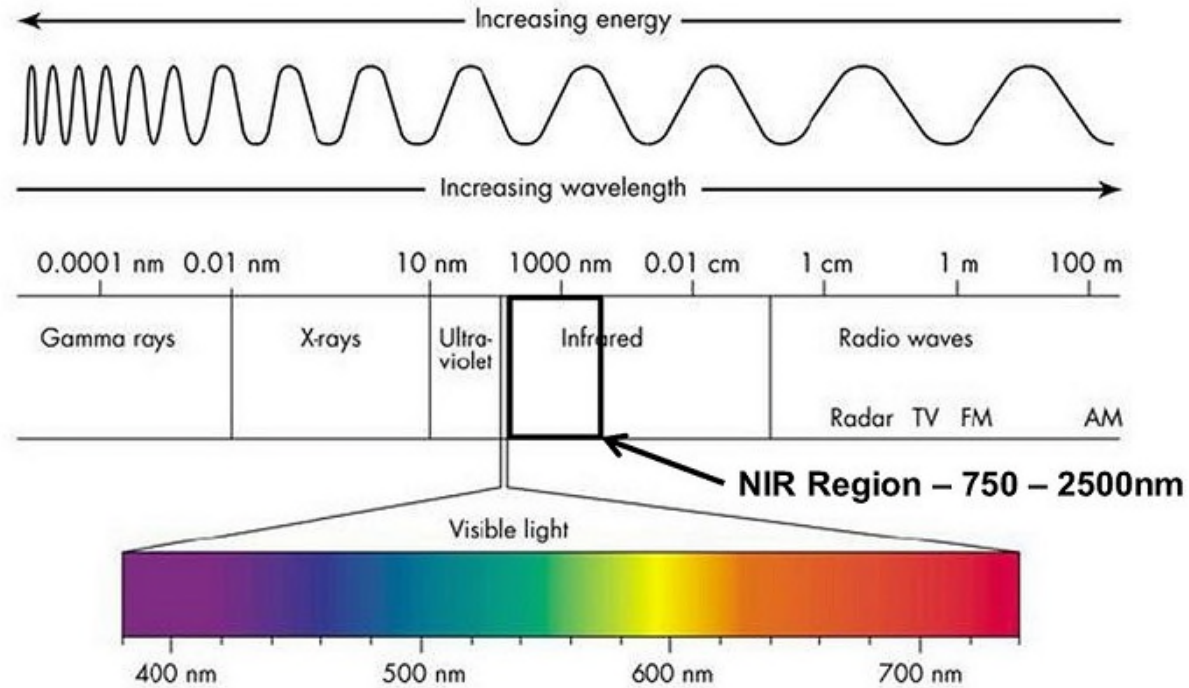
Sorting Technology

Plastic waste



Sorting Technology

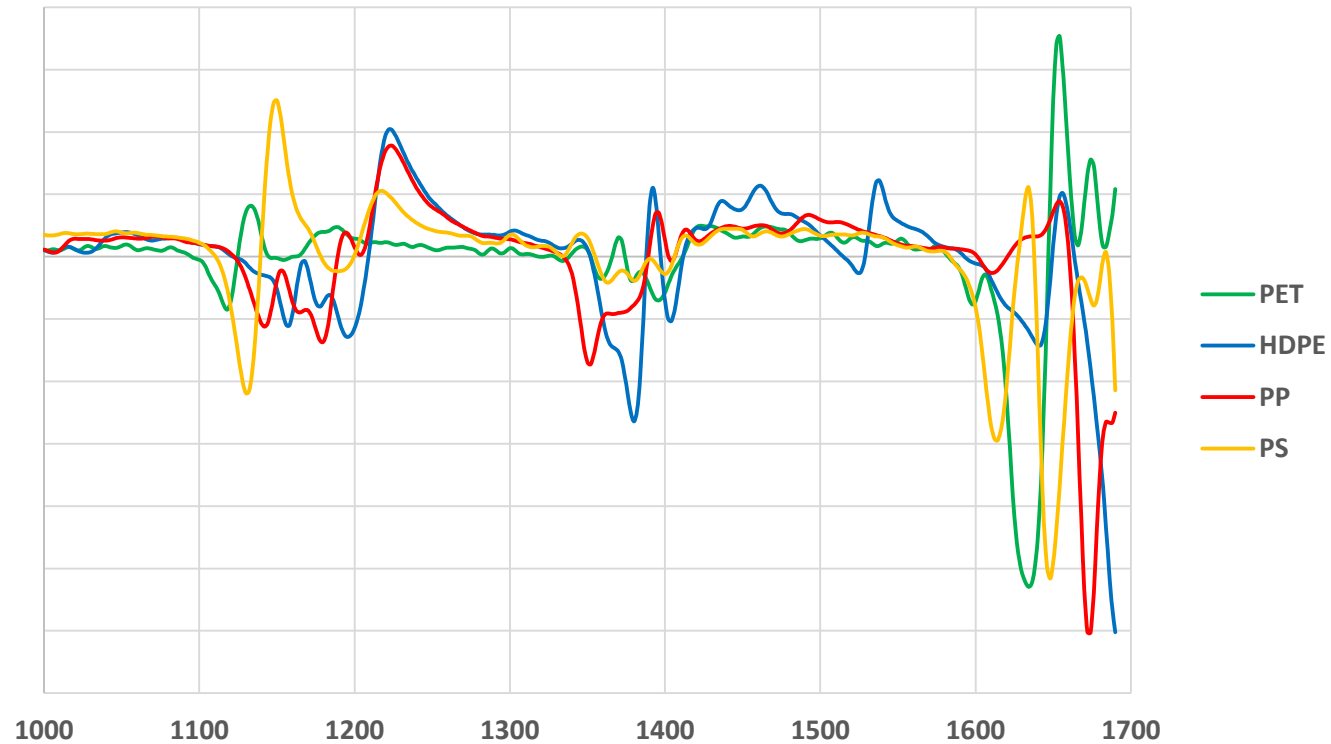
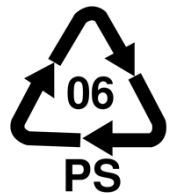
Near-Infrared ~ 750 – 2500 nm



Sorting Technology

Near-Infrared ~ 750 – 2500 nm

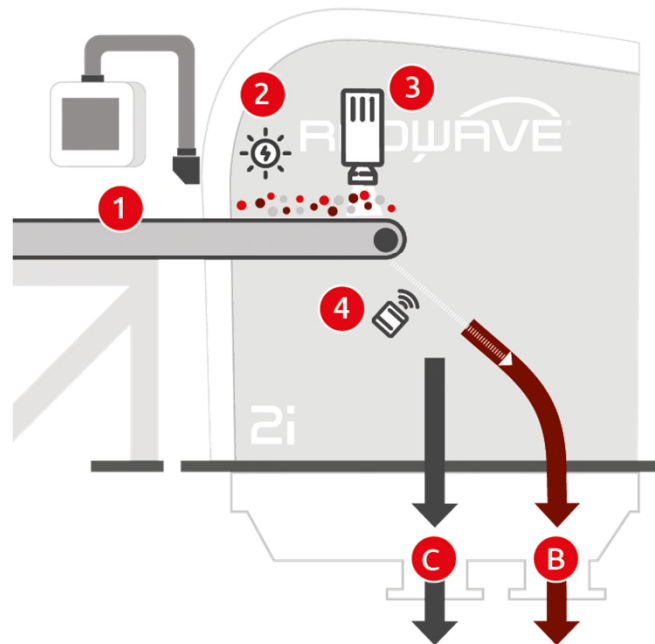
NIR spectra



Sorting Technology

NIR Sorters made by REDWAVE

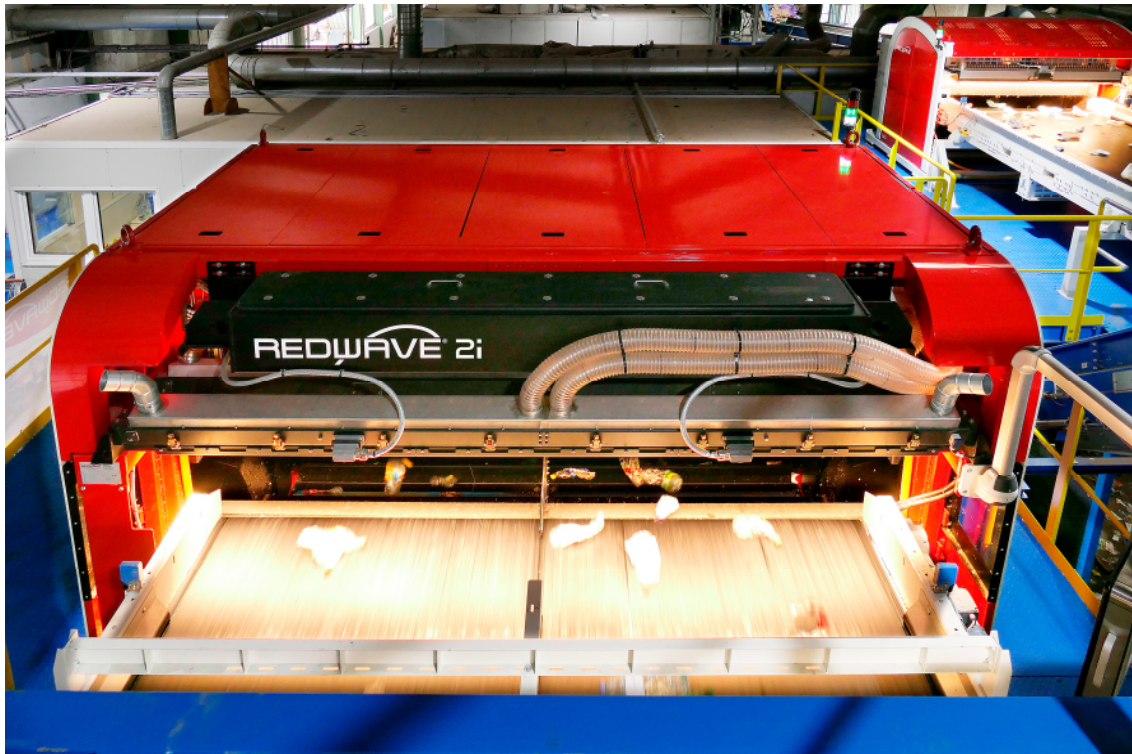
FUNCTIONAL PRINCIPLE REDWAVE 2i 2-WAY



- 1 Acceleration belt conveyor
- 2 Lighting unit
- 3 Camera unit
- 4 Pneumatically pivotable valves
- B Eject
- C Pass

Sorting Technology

NIR Sorters made by REDWAVE



- Sensor fusion: NIR + C + M
- Belt speed > 3 m/s
- Pressure > 5 bar
- Machine width up to 2800 mm
- 2-way or 3-way sorting

Sorting Technology

Applications of NIR sorting

Plastic packaging waste
NIR or NIR+C



Paper
NIR+C



RDF waste (PVC removal)
NIR



Sorting Technology



Other sorting machines



“For a livable future
of our children”

THANK YOU FOR YOUR ATTENTION

Sorting Technology

Sources:

- 1) [https://en.wikipedia.org/wiki/Plastic_bottle#/media/File:Botella de plástico - PET.jpg](https://en.wikipedia.org/wiki/Plastic_bottle#/media/File:Botella_de_plástico_-_PET.jpg)
- 2) [https://en.wikipedia.org/wiki/Plastic_bottle#/media/File:Bottle of milk.jpg](https://en.wikipedia.org/wiki/Plastic_bottle#/media/File:Bottle_of_milk.jpg)
- 3) [https://commons.wikimedia.org/wiki/Category:Polyvinyl chloride?uselang=de#/media/File:Rody Horse toy.jpg](https://commons.wikimedia.org/wiki/Category:Polyvinyl_chloride?uselang=de#/media/File:Rody_Horse_toy.jpg)
- 4) [https://en.wikipedia.org/wiki/Low-density_polyethylene#/media/File:LDPE Foam.jpg](https://en.wikipedia.org/wiki/Low-density_polyethylene#/media/File:LDPE_Foam.jpg)
- 5) <https://de.wikipedia.org/wiki/Polypropylen#/media/Datei:PP-Becher.jpg>
- 6) [https://de.wikipedia.org/wiki/Polystyrol#/media/Datei:Envase de yogur.jpg](https://de.wikipedia.org/wiki/Polystyrol#/media/Datei:Envase_de_yogur.jpg)
- 7) [Polyuréthane : Dow et Eco-mobilier concluent un partenariat dédié au recyclage - Recyclage Récupération \(recyclage-recuperation.fr\)](#)