

# IR Reflective Blacks

Plastika Kritis R&D E-Newsletter



## The way to circular economy

Plastics have become key materials for packaging, construction, electrical & electronic equipment and transportation. At the end of their service life they become waste that needs to be placed back in the life cycle of plastics.

### The problem

In order for plastic products to be recycled, they should be pre-sorted per polymer type in the recycling plants. Significant part of this pre-sorting is accomplished by using Near InfraRed (NIR) sorting equipment. Carbon black widely used for coloring plastics makes impossible the identification and sorting of polymers since it absorbs a significant part of the NIR spectrum, not allowing the reflection back to sensors.

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ONE OF THE MOST ESSENTIAL STEPS IN RECYCLING IS THE RIGHT SORTING OF DIFFERENT TYPES OF POLYMERS.

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*In automated sorting, NIR technique offers great advantage among others but is not effective when dealing with dark colored plastics.*

# Solution to the problem

Replacing carbon black by alternative black pigments based on specific chemistry, which do not absorb NIR, thus making the characterization of different polymers such as PET, PP, HDPE, PS possible.

## PLASTIKA KRITIS PROPOSAL

PLASTIKA KRITIS answers to the problem by launching 2 products

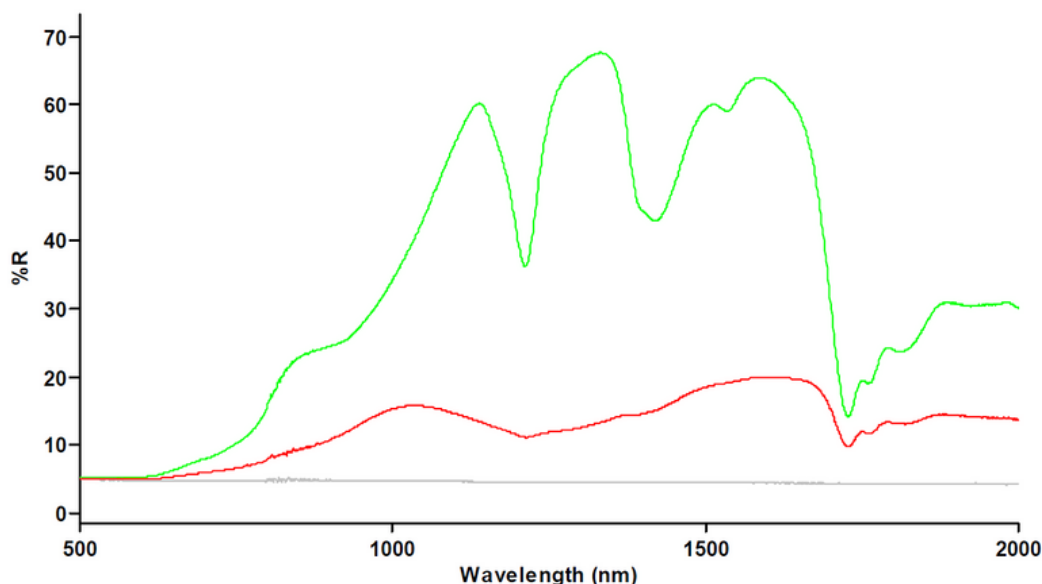
### KRITILEN BLACK 92001

for general purpose black coloration

### KRITILEN BLACK 92002

for better tinting and black undertone

Their performance compared to a carbon black based masterbatch (KRITILEN 4403P) is shown in the following graph



**BLACK 92001**  
**BLACK 92002**  
**BLACK 4403P**



*Both KRITILEN Black 92001 and Black 92002 are based on PE and are carbon black free. They offer excellent heat and weather resistance and can be used for food packaging.*