

Ravapura® HDPE

Colorful Meets Sustainable

Bold colors have long been used by brand owners to enable consumers to easily recognize their products. As consumers become more environmentally conscious, and brand owners pledge to use more sustainable materials in their packaging, recycled plastics must rise to the challenge of supporting coloring requirements to achieve brand recognition.

Not all recycled plastic is equal

Not all post-consumer recycled compounds are equal, so it is important for plastic converters to begin with high quality material. Ravapura® HDPE 7525 is made from specially selected, high quality feedstocks and compounded to further improve performance. It contains a minimum of 75% post-consumer recycled (PCR) high density polyethylene, and is designed for blow molding applications such as non-food FMCG packaging where aesthetic and mechanical properties are important. Ravapura® HDPE 7525 is also manufactured in accordance with the Unified Standard for FMCG Home & Laundry Packaging.

Grade	Density [g/cm ³]	MFI 190°C/21.6 kg [g/10 min]	Charpy notched impact [kJ/m ²]	Tensile modulus [MPa]	Colors
Ravapura® HDPE 7525	0.954	25	10	1150	Natural, white & medium grey

Ravapura HDPE grades are also available for injection molding applications

After starting with a high quality rHDPE, the next step is to reach the color requirements that brand owners need. By combining Ravago Ravapura® HDPE 7525 with Avient™ OnColor™ Solid Color Masterbatches, plastics converters can produce packaging that achieves:

- ✓ A wide range of bright & bold colors
- ✓ Up to 75% PCR content
- ✓ Color consistency
- ✓ Processability like virgin material
- ✓ Low gel level and minimal odor



Color Prediction

Colorability of Ravapura HDPE 7525 natural

Using Avient's color prediction technology, it was determined that Ravapura® HDPE 7525 natural is expected to achieve 90% of the same colors that are achievable when coloring a natural virgin HDPE (Figure 1).

Within the RAL color range, 173 colors lie within the gamut for Ravapura® HDPE, providing a significant amount of coloring options for when specific RAL colors are required.

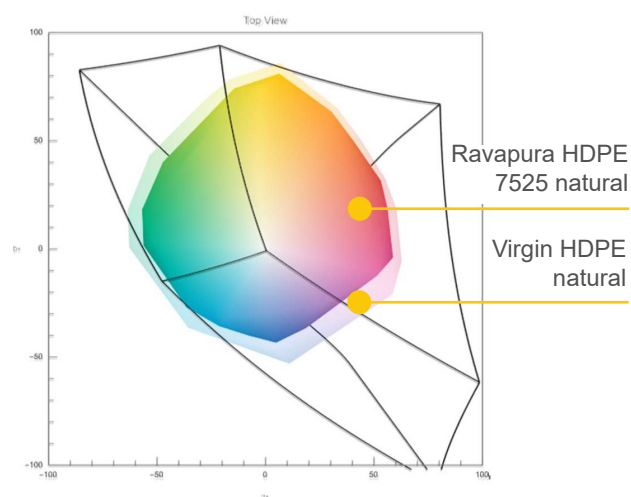


Figure 1: Color gamut of Ravapura® HDPE 7525 natural laid over the color gamut of a virgin natural HDPE material

Colorability comparison of Ravapura HDPE 7525 natural, white & grey

Figure 2 shows the color gamuts determined by Avient's color prediction technology of the Ravapura® HDPE 7525 natural, white and grey laid over each other. This indicates the difference in achievable colors based on the pigmentation of the starting material. Material selection and coloring can then be optimized depending on the requirements of the application.

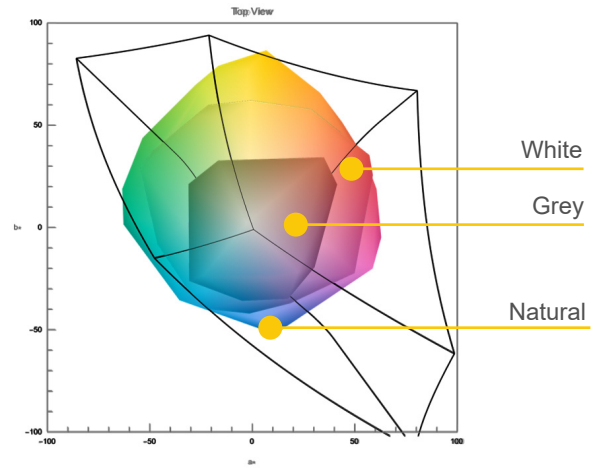


Figure 2: Color gamuts of Ravapura® HDPE 7525 natural, white and grey

Color Reality

Samples of the natural, white and grey Ravapura® were colored using 3% Avient OnColor Solid Color Masterbatch to show examples of the achievable colors of recycled materials containing different pigments before coloring. Vibrant colors are possible even from self-coloring of the darkest starting product, allowing packaging converters to choose the optimum material to reach the specific color requirements of brand owners. This supports them in boosting recycled content to meet sustainability targets and comply with regulations such as plastic packaging taxes, all whilst offering the high material performance that the application needs.

Ravapura® HDPE 7525 natural (without pigment) + 3% Avient OnColor Solid Color Masterbatch



Ravapura® HDPE white + 3% Avient OnColor Solid Color Masterbatch



Ravapura® HDPE 7525 grey + 3% Avient OnColor Solid Color Masterbatch






Improved NIR detection in recycling

By coloring Ravapura® HDPE with Avient OnColor Solid Color Masterbatches, recyclability of the packaging at the end of its life can also be improved as it is more easily detectable by the near-infrared (NIR) optical sensors used in recycling centers. This means that it can be sorted more effectively into color groups, which can then be recycled and used again in similar applications. Less plastic waste ends up being burnt, or sent to landfill, and we can instead take a step towards circularity.



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In collaboration with

