



» TECHNICAL BULLETIN

## ColorMatrix™ SmartHeat™ RHC

ColorMatrix™ SmartHeat™ RHC is a formulated liquid dispersion, designed specifically for the PET packaged water preform and bottle producer. SmartHeat RHC is added to the preform during the injection molding process as a process aid for blow molding with the following benefits:

- Improved blowing performance
- Potential for increased rPET content
- Increased mechanical strength
- Potential for lightweighting
- Improved performance through the recycle process
- Reduced energy consumption
- No pre-drying requirements

SmartHeat RHC can contribute towards improved productivity, reduced manufacturing costs, improved sustainability, and can broaden the scope for bottle design.

Applications include clear PET water bottles, where impact on product color is minimal. SmartHeat RHC can also be incorporated into liquid color dispersions, for colored PET water bottles, where a color-matched solution can be provided.

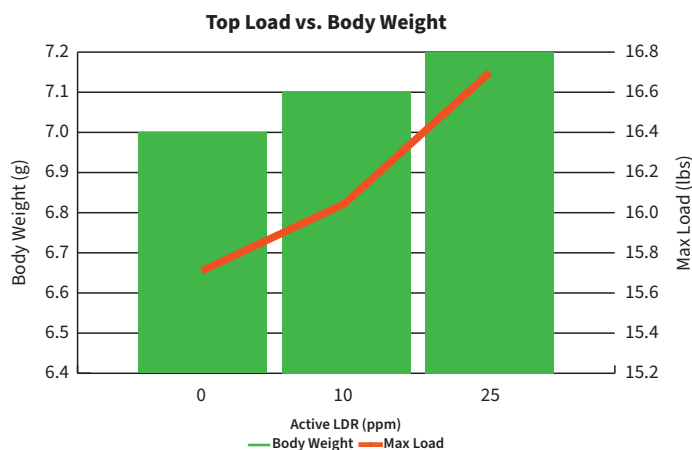
### RECYCLING

SmartHeat RHC is currently undergoing testing for APR Critical Guidance and Bottle to Bottle approval, which will be closely followed by EBPB approval.

### PERFORMANCE

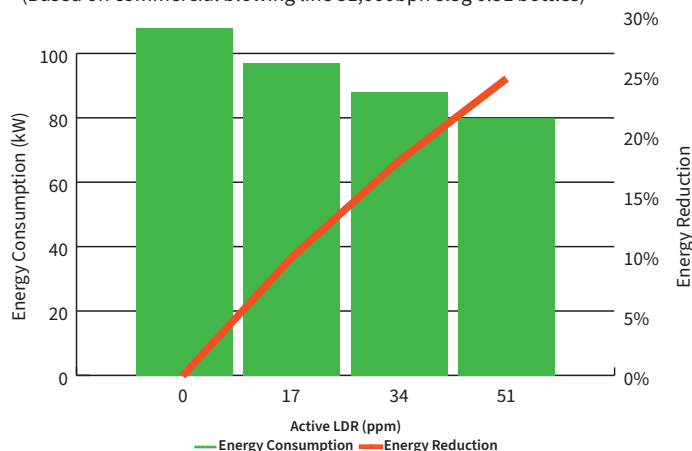
#### Increased Bottle Strength

(Based on 14.5g 0.5L bottles)



#### Up to 25% Energy Saving Potential

(Based on commercial blowing line 51,000bph 8.5g 0.5L bottles)





## TYPICAL GENERAL PROPERTIES<sup>1</sup>

Test Description	Test Method	Units	Typical Values
Viscosity	Avient Method	cP	6,000–10,000
Density	Avient Method	Lbs/gal	7.9–8.9
Color Variance	Avient Method	ΔE	0.0–1.0
Color Appearance	Visual		Slight Blue
Dispersion Pressout	Visual		Pass
Opacity: Visual	Visual		Pass

<sup>1</sup>Typical values are not to be construed as specifications. COA are supplied separate with products.

## PROCESSING & HANDLING

SmartHeat RHC is supplied in Avient’s ColorMatrix approved packaging and is active as supplied. It is metered into the PET stream just above the extruder feed throat of the injection molding machine using an Avient-supplied ColorMatrix dosing system. It should not be used in combination with dosing systems not supplied by Avient.

Melt processing of SmartHeat RHC is carried out at typical PET processing conditions at recommended dose rates, which range from 0.05% to 0.2%. It can be supplied as a stand-alone product or as a combination product, where it can be incorporated into a liquid color or acetaldehyde scavenger.

Once incorporated into the preform, no further action is necessary. Performance can be observed and supported during the bottle blowing process through optimization of the lamps, resulting in decreased energy consumption due to increased absorption of heat into the preform.

## STORAGE

It is recommended that packages of SmartHeat RHC are stored under ambient conditions (between 10°C and 25°C) for optimal storage stability and dosing.

In order to maximize product quality, it is recommended that strict product rotation is applied to all incoming stock to minimize extended storage periods.

The anticipated shelf life of SmartHeat RHC is 60–90 days, after which settling out can occur. The product will remain active, however re-mixing may be required for re-homogenization. Further information regarding shelf life can be obtained from your local sales representative.

## FOOD CONTACT

SmartHeat RHC has food contact approvals shown in the table below. For information about food contact approval status for any other regions, please contact your local sales representative.

	EU	FDA	Mercosur	China
SmartHeat RHC	Yes	Yes	No	No

## PACKAGING

Package Type	Quantity
5G Pail	Up to 40 lbs
Planetpak	Up to 40 lbs

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