

**ColorMatrix™
rePrize™ for rPET**





ColorMatrix™ rePrize™ is a patent-protected, liquid formulation IV builder designed for addition to the extrusion process during the manufacture of rPET. It increases polymer IV in the melt phase, allowing for:

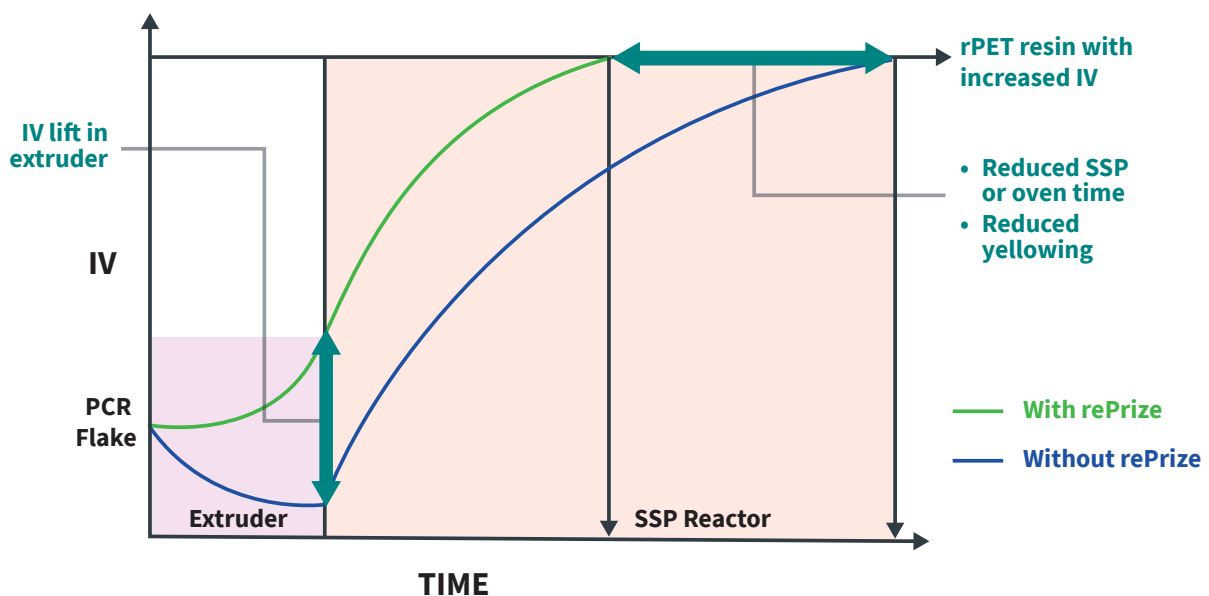
- Improved rPET quality and performance
- Higher target IV's
- Reduced solid state polymerization time
- Increased productivity

It also aids in the drive towards the circular economy and helps Brand Owners achieve sustainability targets through:

- Reduced carbon emissions
- Increased rPET content

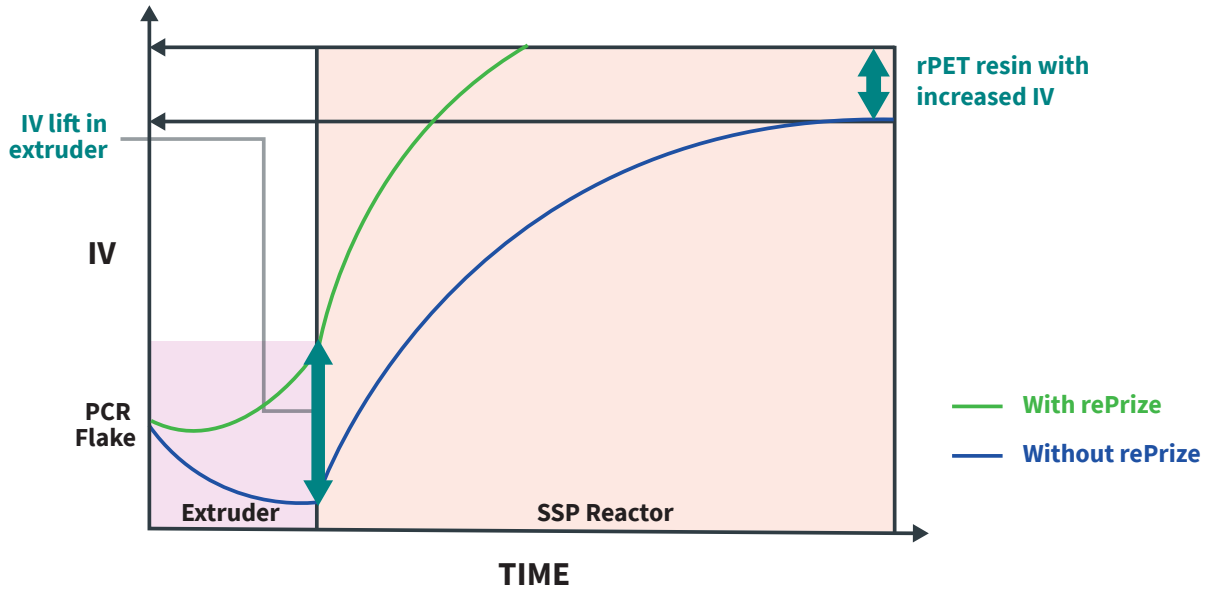
REDUCED SSP TIME & IMPROVED PRODUCTIVITY

ColorMatrix rePrize allows for an increase in IV in the melt extrusion process, which permits reduced time in solid state polymerization to achieve the same target IV. This helps increase productivity and reduce energy consumption, helping to reduce carbon emissions. PET degrades and yellows at high temperatures, hence reducing the time of exposure to heat in SSP, can help to reduce the yellowing of rPET.



INCREASED TARGET IV

ColorMatrix rePrize allows for increased target IV and increased strength of the rPET material, enabling a wider range of product applications including carbonated soft drinks (CSD).



THE REPRIZE MODEL

To help predict the level of rePrize required, this model can be used to determine dose rates based on process inputs. An example of the model is shown below.

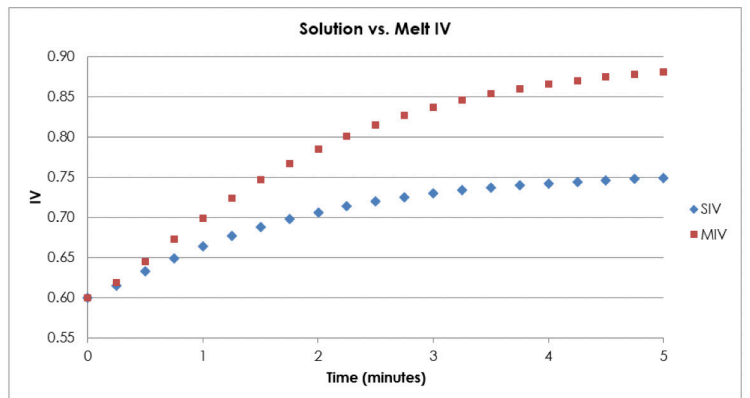
Customer Details	
Customer Name	
Plant Location	
Account Code	

Model Inputs	
SIV (dl/g)	0.6
ppm H ₂ O	25
rePrize Product	rePrize Sh-1
rePrize Loading (wt%)	0.500
Temperature (°C)	285
Total Extrusion Time (min)	5

Complete Customer Details to save a copy of the output.
Press 'Reset' to clear Customer Details and return Model Inputs to their default values.

Run Model
Save Output
Reset

Calculated Outputs	
SIV (dl/g)	0.749
MIV (dl/g)	0.881



PROCESSING AND HANDLING

ColorMatrix rePrize is active “as supplied”. It is supplied in ColorMatrix approved packaging which is agreed prior to supply. It should not be used with any non-ColorMatrix specified packaging.

ColorMatrix rePrize is metered into the PET stream just above the extruder feed throat using a ColorMatrix FlexCart dosing system. It should not be used with any non-ColorMatrix dosing systems.

It is recommended to acclimatize rePrize to shop floor ambient conditions 24 hours prior to use. Melt processing of rePrize in PET blends is done at typical polyester conditions. These conditions

can be defined and agreed at a trial stage and under the consultation of a ColorMatrix Technical Service Engineer.

ColorMatrix rePrize is a very reactive additive and any changes to the extruder temperatures and parameters will have an effect on melt viscosity of the polymer and also the finished article.

The melt pressure in the extruder should be observed with caution when running ColorMatrix rePrize. If the dose level is too high, it may cause issues with the melt stiffening in the extruder. ColorMatrix rePrize must never be left in an idle, hot extruder and the extruder must be purged after use.

REGULATORY APPROVALS

ColorMatrix rePrize is approved as follows. For further information, please get in touch with your local sales representative.

EU	FDA	MERCOSUR	CHINA
•	•	•	•

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