



# IV ENHANCERS

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Additives for r-PET

PET recycling process often leads to degradation of PET resulting in shorter polymer chains and a lower molecular weight.

As a result, r-PET shows lower Intrinsic Viscosity (IV) values.

In order for r-PET to be processable and to give appropriate mechanical properties to the final product, a certain minimum IV value is needed.

### KEY FEATURES

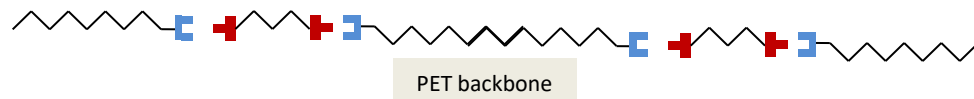
- IV increase from 0,05 dl/g to over 0,20 dl/g, depending on the LDR
- Solid and liquid additive technologies available
- Typical dosage (LDR %)
  - liquid additive: 0,08% – 0,12%

# REPI IV ENHANCER: A CHAIN EXTENDER


REPI IV Enhancers behave like a chain extender, bringing IV values and mechanical properties back to those of virgin PET.


REPI processing guidelines ensure the formation of linear chains and avoid the risk of cross-link chains (gels).

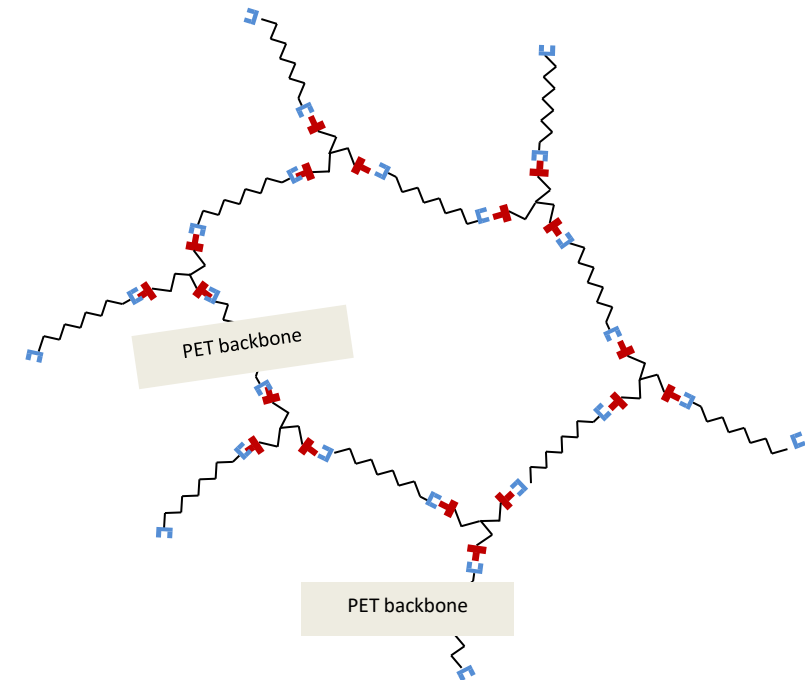
This results in good performance and better reprocessing and recycling of the PET.



Linear Chain Extension

 Polymer end group

 Chain extender end group

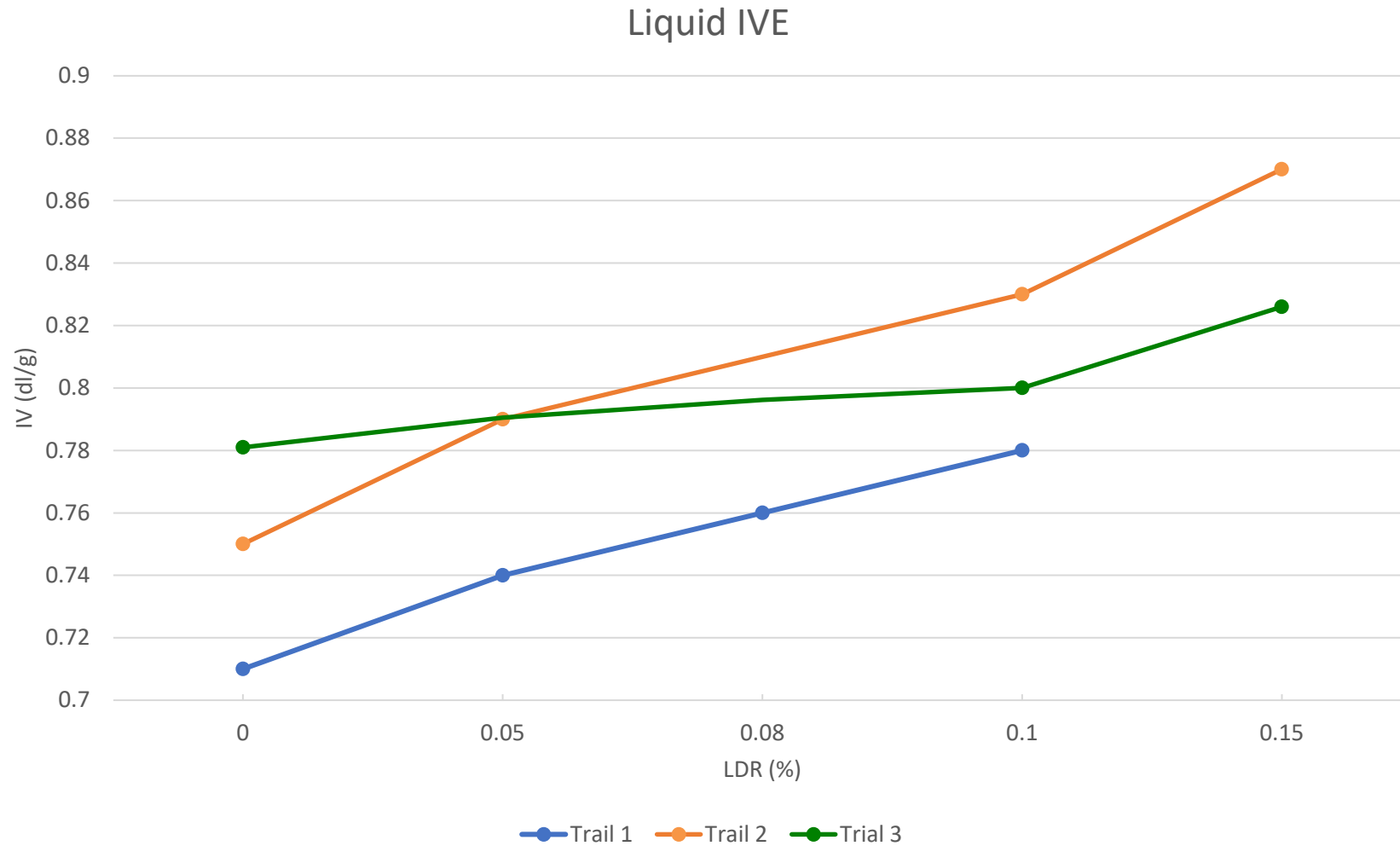


Cross-link Chain Extension

**APPLICATION AND ADVANTAGES**

- Suitable for injection, extrusion and recycling processes
- IVE additives allow to speed up or to substitute the long SSP process
- The uneven incoming IV of the polymer is stabilized, guaranteeing higher IV in the screw and higher processing pressure
- The melt flow is constant and therefore thickness distribution homogeneous (extrusion)
- The additive binds to itself free oligomers, mainly responsible for the dirt of calenders. When the material has a lower viscosity, dirt tends to accumulate on the sides of extruded sheet after 6-7 hours production (extrusion)

## ADDITIVE'S PERFORMANCE: ISBM CASE STUDIES

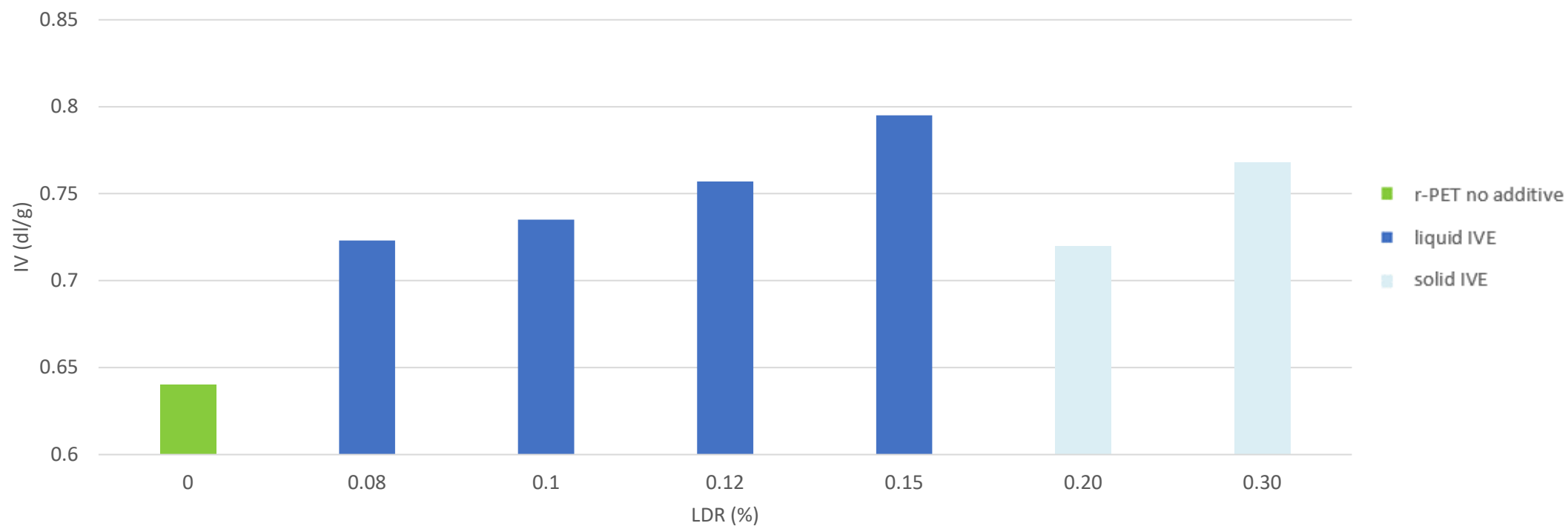


<b>Trial 1</b>	Industrial test
<b>Trial 2</b>	Pilot test
<b>Trial 3</b>	Pilot test

## ADDITIVE'S PERFORMANCE: EXTRUSION CASE STUDY

<b>Machine</b>	twin screw extruder
<b>Resin</b>	100% flakes
<b>Product</b>	R-PET pellet

Liquid and solid IV Enhancers



REFIT



## REFIT RANGE ALSO COMPRISES:

- ANTI YELLOW GRADES
- OPTICAL BRIGHTENERS
- AA SCAVENGER
- FUME' COLOUR RANGE

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THANK YOU

