



VALUE PLASTICS, INC.
SPECIALISTS IN FLUID CONNECTIONS™

October 27, 2010

Re: Pro-fax PD626 Polypropylene Additive Change

Dear Valued Customer:

Value Plastics has been notified by our supplier of Pro-fax PD626 polypropylene, LyondellBasell, that an additive used in this resin has been discontinued. The additive is used to reduce the yellowing effect that can result from radiation sterilization. The company currently making and supplying the additive to Lyondellbasell has made this additive obsolete, which has required the specification of a new additive.

LyondellBasell has completed tests on the new additive demonstrating no significant difference in performance from the current formulation and presenting no change to the overall properties of the PD626 polypropylene. A summary of this test report is provided with this letter.

Value Plastics has sufficient stock of the current PD626 resin to continue to supply molded parts in this resin for at least six months. We are currently working on a production plan to provide to our customers which will provide additional details on the timing of our move to the PD626 with the new additive. Customers purchasing parts in this material will receive a notice regarding this plan.

We apologize for any inconvenience caused by this change from our supplier and will continue to do our best to keep customers informed of the corresponding developments.

Sincerely,

Chuck Philipp
Vice President





Optical Brightener Replacement in *Pro-fax* PD626

Sunit Shah

Equistar Chemicals LP, a LyondellBasell company

October 8, 2010



Background and Objective

- Pro-fax PD626 polypropylene homopolymer contains an optical brightener (OB) additive in order to reduce the yellowness caused by radiation sterilization
- The optical brightener is used at a low ppm level in *Pro-fax* PD626
- Equistar Chemicals' supplier of the optical brightener has obsoleted the additive
- The objective of this study was to validate the performance of an alternative optical brightener in *Pro-fax* PD626

Experimental

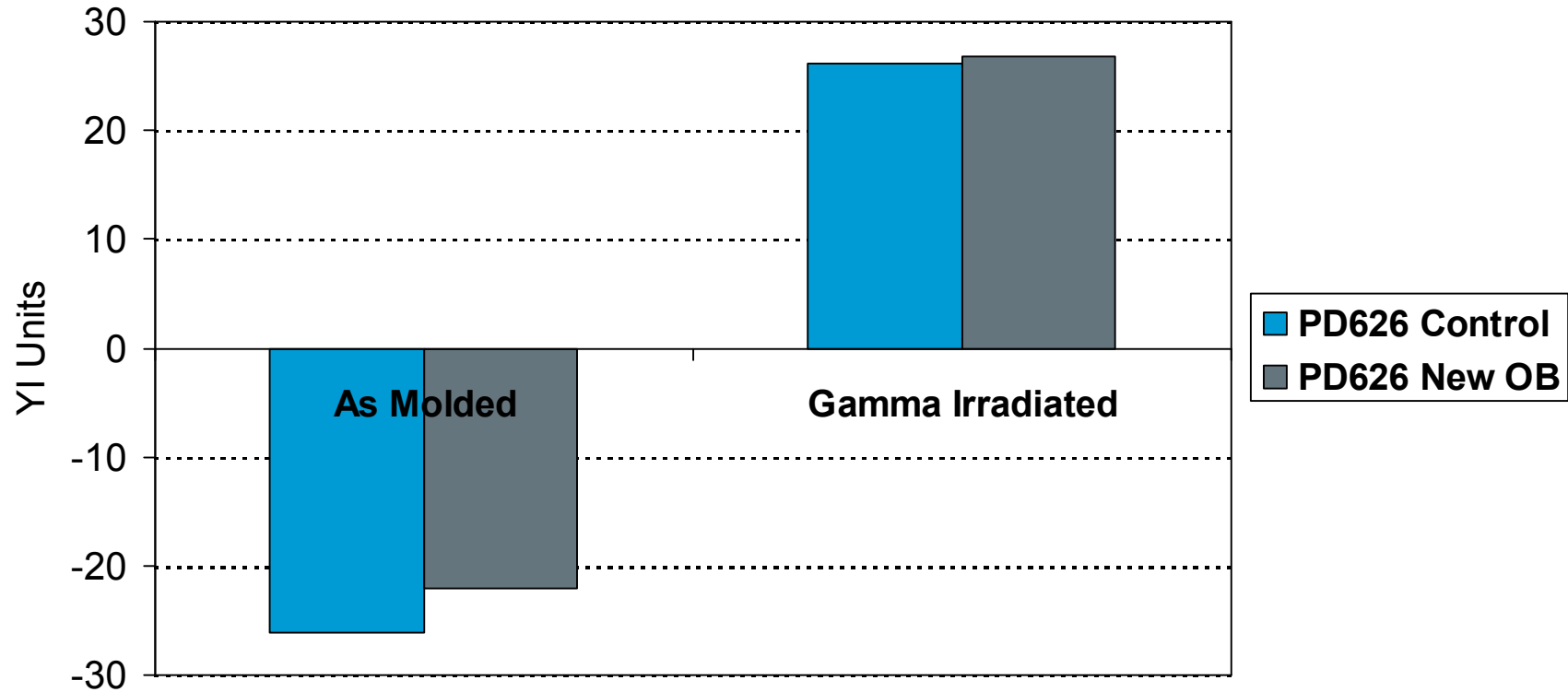
- Samples of *Pro-fax* PD626, with the control and alternative optical brighteners, were produced on a laboratory twin-screw extruder using standard processing conditions
- These samples were designated as “**PD626 Control**” and “**PD626 New OB**” respectively
- The samples were Gamma irradiated at a target dose of 50 kilograys
- The physical and mechanical properties of the samples, before and after irradiation, were tested using standard ISO test methods
- The color change was measured using Yellowness Index (YI) testing

Property Comparison

Property	Method	Units	PD626 Control As Molded	PD626 New OB As Molded	PD626 Control Irradiated	PD626 New OB Irradiated
Melt Flow Rate	ISO 1133	dg/min	10.6	10.1		
Tensile Yield Strength	ISO 527	MPa	36.0	36.2	37.0	37.0
Elongation at Yield	ISO 527	%	10.1	10.0	9.6	9.9
Izod Impact Strength at 23°C	ISO 180	kJ/m ²	4.73	4.86	4.20	4.28

Yellowness Index Comparison

(Negative YI = Less Yellow)



Conclusions

- The overall performance of the new optical brightener is shown to be equivalent to the existing optical brightener in *Pro-fax* PD626
 - ▮ Mechanical properties of *Pro-fax* PD626 with the new OB remain consistent with the control *Pro-fax* PD626
 - ▮ The new OB shows similar effectiveness as the existing OB in controlling the yellowing of *Pro-fax* PD626 post irradiation

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