FRESH THINKING
GREAT PRODUCTS

POLYSCOPE
fresh thinking, great products

XIRAN® Heatboosters

High Heat ABS

Polyscope offers a broad portfolio of styrene maleic anhydride (SMA) copolymers, compounds, aqueous solutions and styrene maleic anhydride N-phenylmaleimide (SMANPMI) terpolymers.

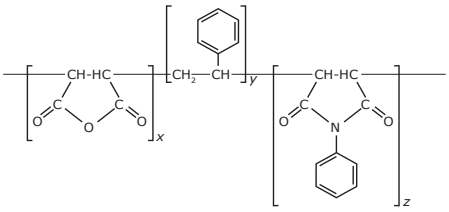
Our XIRAN® Heatboosters offers a solution for a wide range of engineering plastics such as ABS, PMMA, PLA and PVC. Increased thermal resistance offers solutions in processing temperatures and opens up windows in applications areas where higher temperature resistance is required. These neat resins are available under the brand names XIRAN® SZ and XIRAN® IZ.

XIRAN® heat performance efficiency in ABS

High heat performance (T_g, Vicat and HDT) shows a linear increase with the amount of XIRAN® in the final ABS compound. The XIRAN® IZ product range is especially designed to offer optimized solutions in ABS blends.

Influence of XIRAN® on flow properties in ABS

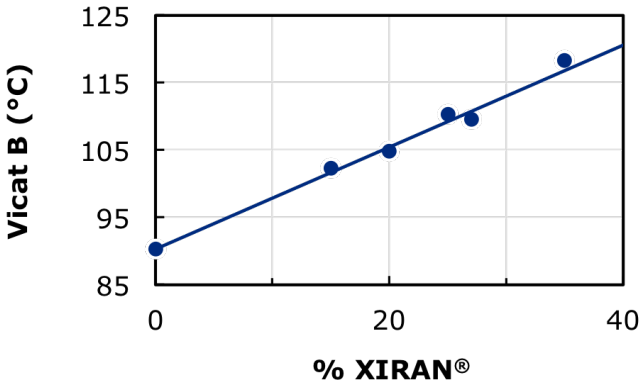
In ABS compounds, the melt index increases with the addition of XIRAN® resulting in improved flow and processing. The improved flow properties offer opportunities for complex structures in designing moulds.



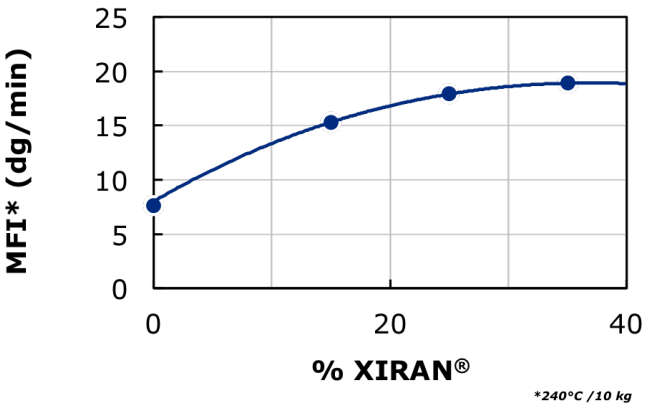
XIRAN® IZ1018M for High Heat ABS

		IZ1018M
maleic anhydride (x)	mol %	10
N-phenylmaleimide (z)	mol %	18
molecular mass	kg/mol	145
glass transition temperature	°C	175
MFR at 240 °C and 10 kg	dg/min	12

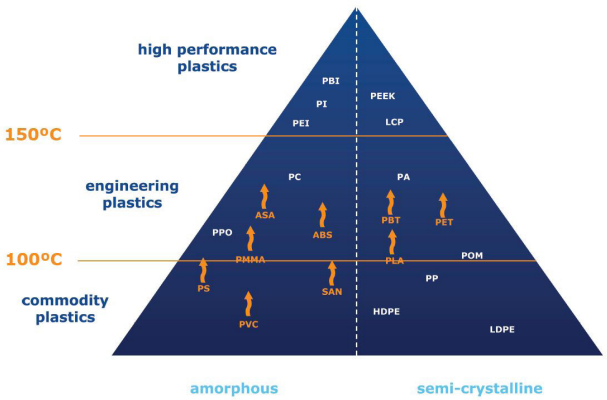
Heatboosting efficiency XIRAN® in ABS



Flow behavior XIRAN®



Heatboosting opportunities with XIRAN®



FRESH THINKING GREAT PRODUCTS

POLYSCOPE
fresh thinking, great products

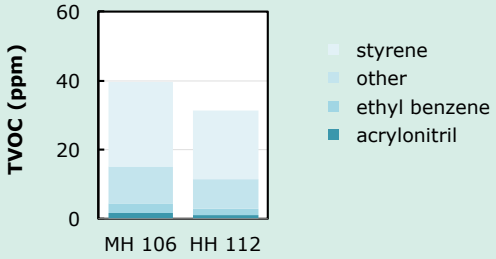
Support in product development XIRAN® based ABS formulations.

Polyscope offers support towards developing your high heat ABS compounds. Our people can support you with developing compounds for your end markets in high heat ABS. Typical market standards are medium heat ABS with VICAT B of 106°C and high heat ABS with VICAT B of 112°C. The table on the right shows formulations, which are made, based on ABS with 27% acrylonitrile (AN). The AN content is very critical in compound development, our team is more than happy to support your developments.

		MH106	HH112
High Impact ABS	mol %	81	72
IZ1018M	mol %	19	28
VICAT B	°C	106	112
MFR (240 °C/10 kg)	dg/min	24	32
Charpy notched (23°C)	kJ/m²	15	10

Volatile levels with XIRAN® formulations

Current market trends show that the reduction of volatiles is very critical. Polyscope's high heat modifiers are focused on providing materials with very low volatiles to fit markets such as Automotive. The production with our additives shows very low volatiles in VDA 277 testing procedures.



Benefits for XIRAN® based high heat compounds

- improved heat resistance: T_g, Vicat and HDT
- minimal ppm levels of residual volatiles and oligomers
- reduced odor
- improved rigidity and strength of compounds
- better dimensional precision, low shrinkage and CLTE
- improved adhesion for paint, foam and glue
- improved metallization, plating and sputtering
- increased flow

Recommended Processing conditions

	screw	purging materials	pre-drying time	barrel temperature	die temperature
XIRAN® IZ1018M	twin screw, mild screw configuration and vacuum degassing	SAN-GF ABS-GF	3 hours	240°C	260°C

Polyscope
Prins de Lignestraat 28
6161 CZ Geleen
The Netherlands

Contact
Phone +31(0) 46 75 000 10
info@polyscope.eu
www.polyscope.eu