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XIRAN[®] SO GRADES FOR PMMA

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SMA/PMMA opportunities

Displays | Lighting

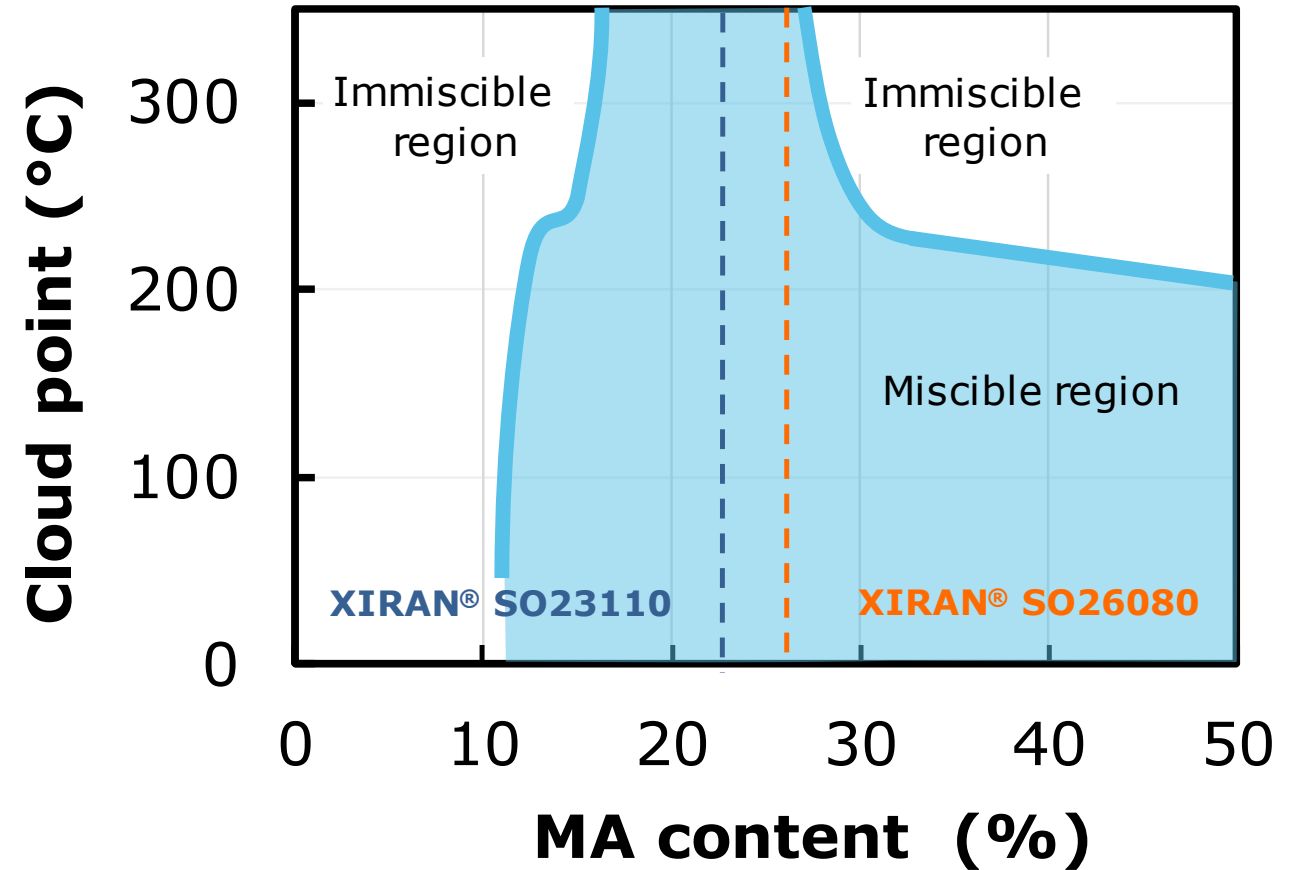
XIRAN® SO shows excellent miscibility with PMMA offering:

- Higher thermal stability
- Refractive index tuning
- Reduced moisture uptake
- Improved surface crack resistance



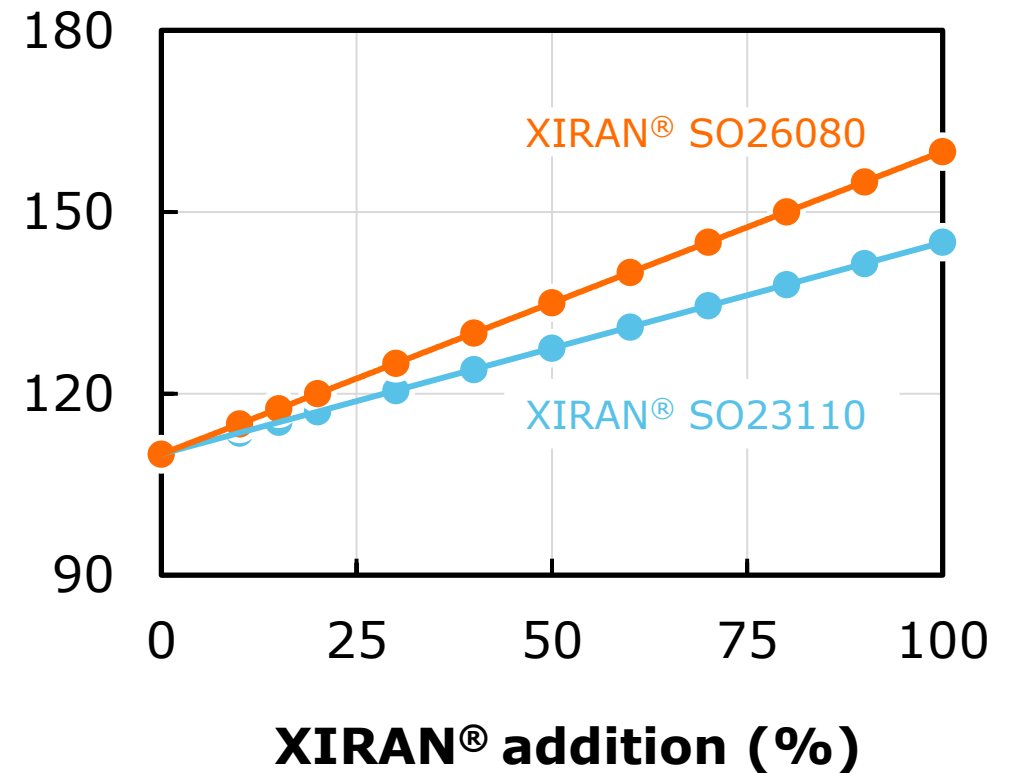
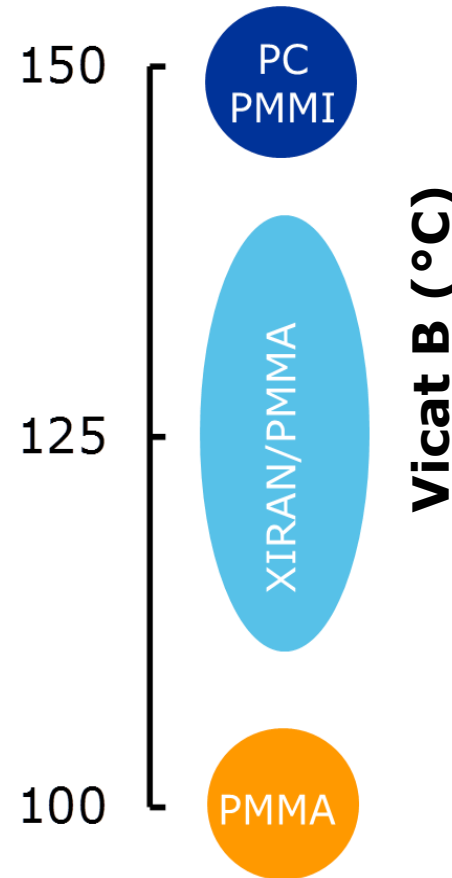
Miscibility PMMA/XIRAN®

- Miscible, transparent materials can be made with PMMA and XIRAN® SO grades. The MA content of XIRAN® SO grades is critical for miscibility.
- XIRAN® SO grades are designed to ensure best performance for PMMA.



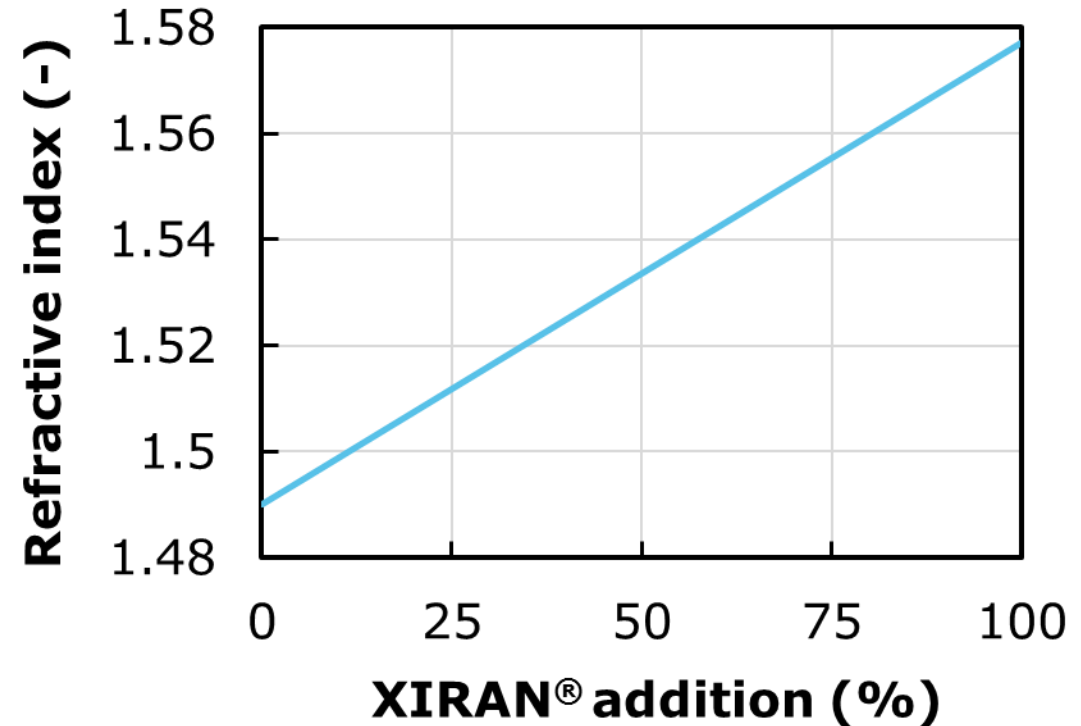
High-heat PMMA

- XIRAN® SO can bridge the gap between PMMA and PC & PMMI with Respect to heat resistance.
- XIRAN® SO23110 will increase the heat performance with 3,5°C/10% addition to PMMA
- XIRAN® SO26080 will increase the heat performance with 5°C/10% addition to PMMA



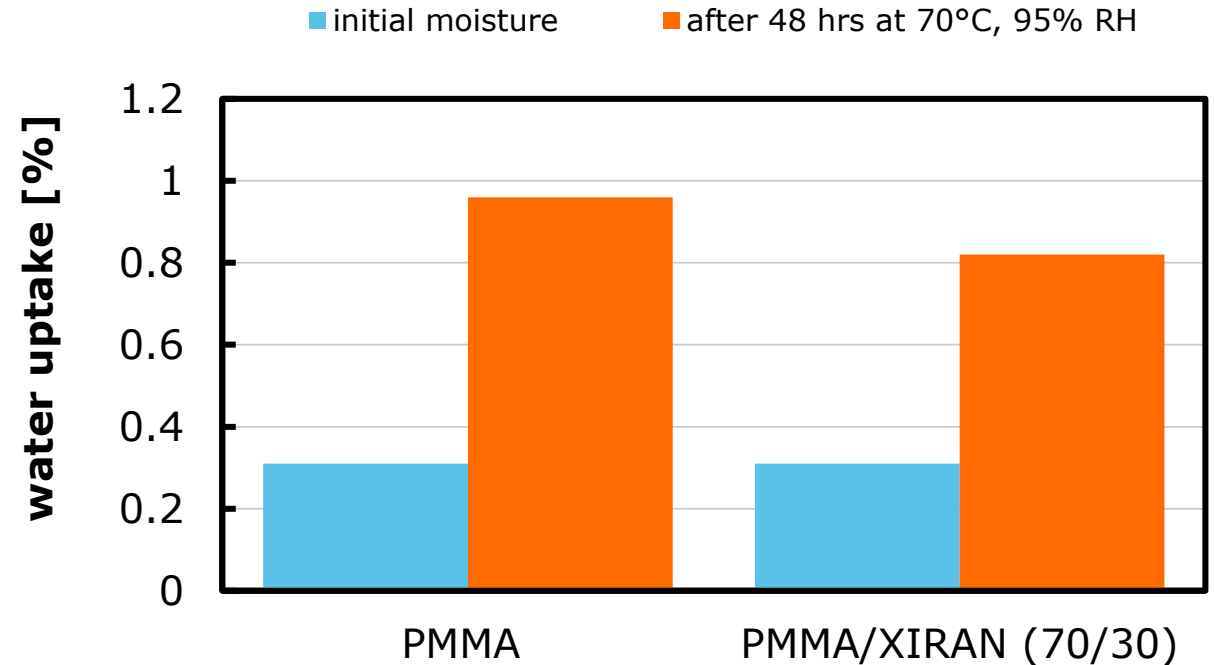
Refractive index tuning

- SMA and PMMA are fully miscible which enables the possibility to tune the refractive index.
- Refractive index XIRAN SO grades: 1.5743



Reduced moisture uptake

- The water uptake of PMMA can be significantly reduced with the addition of XIRAN[®] SO grades.
- Reference testing was performed with XIRAN[®] SO26080 and Plexiglas 8N



PMMA/XIRAN® SO blend properties

Property	Standard	Unit	PMMA (Standard)	PMMA/XIRAN SO26080 (95/5 ratio)	PMMA/XIRAN SO26080 (85/15 ratio)	PMMA/XIRAN SO26080 (70/30 ratio)
Charpy unnotched 23°C	ISO 179/1eU	kJ/m ²	22	21	20	17
Tensile Modulus	ISO 527	N/mm ²	3220	3311	3321	3387
Elongation at break	ISO 527	%	7	5	4	3
Tensile strength	ISO 527	N/mm ²	91	92	89	82
HDT A (1.82 MPa)	ISO 75-2	°C	88	88	93	99
Vicat B (50N)	ISO 306	°C	109	112	116	123
Light transmittance	ASTM D 1003	%	92	92	91	91
Haze	ASTM D 1003	%	0	1	2	2
Yellowness index	ASTM D 313	[-]	0	1	1	1
MFI (230°C/3.8kg)	ISO 1133	g/10 min	3	3	3	4

XIRAN® SO26080 & Plexiglass 8N used as reference materials



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