

GLOXIL light iM16k A in Polypropylene copolymer

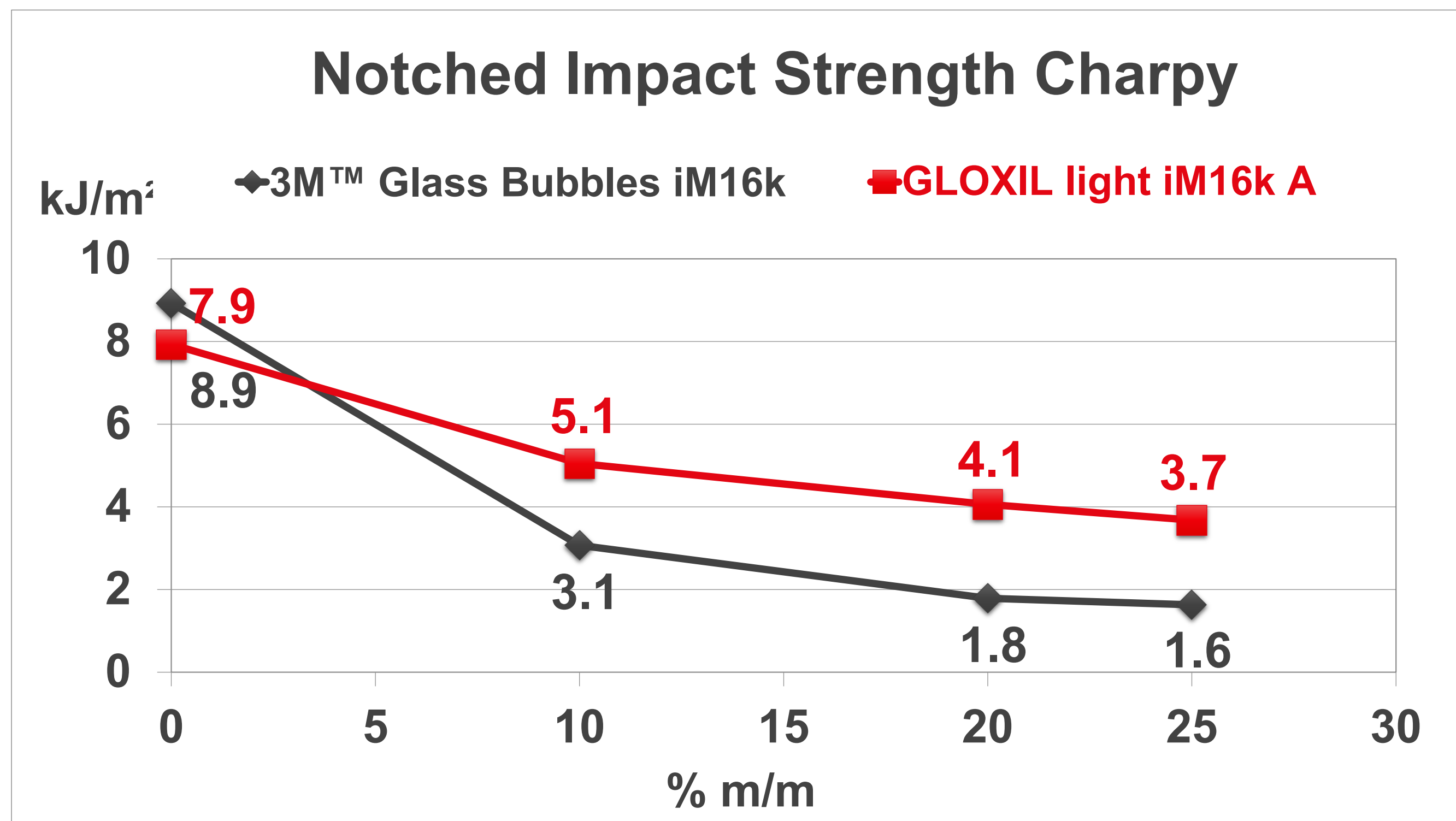
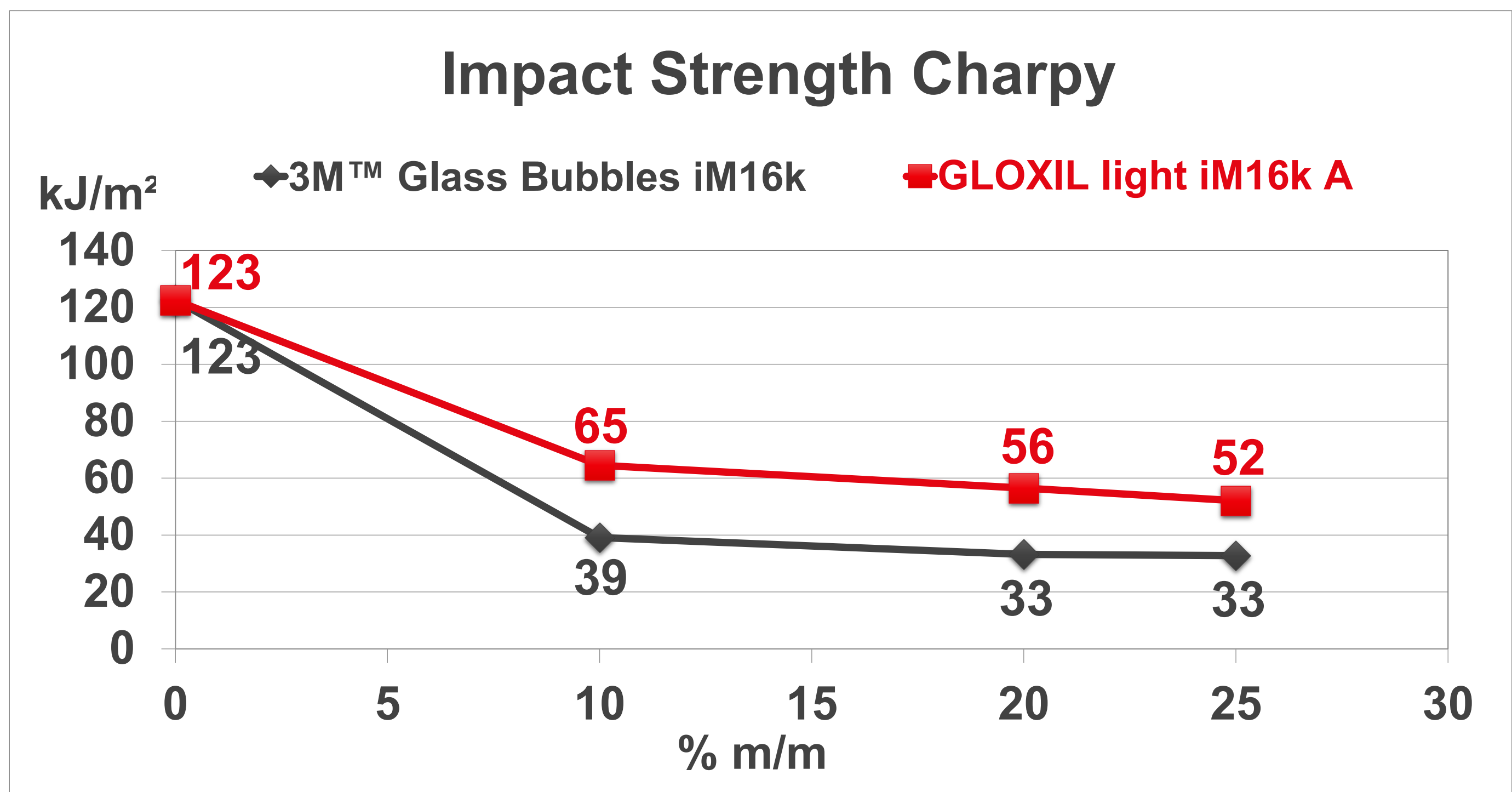
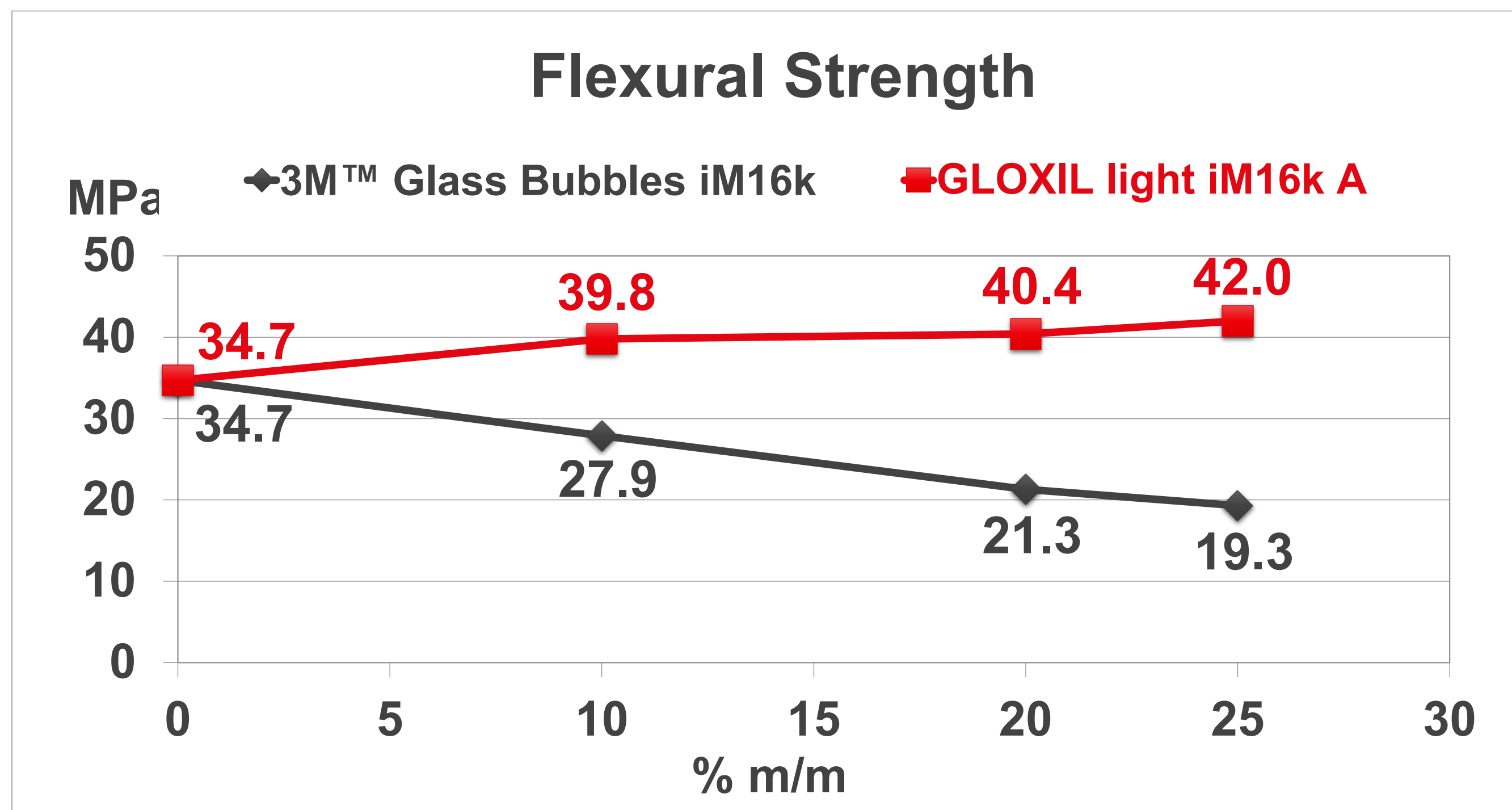
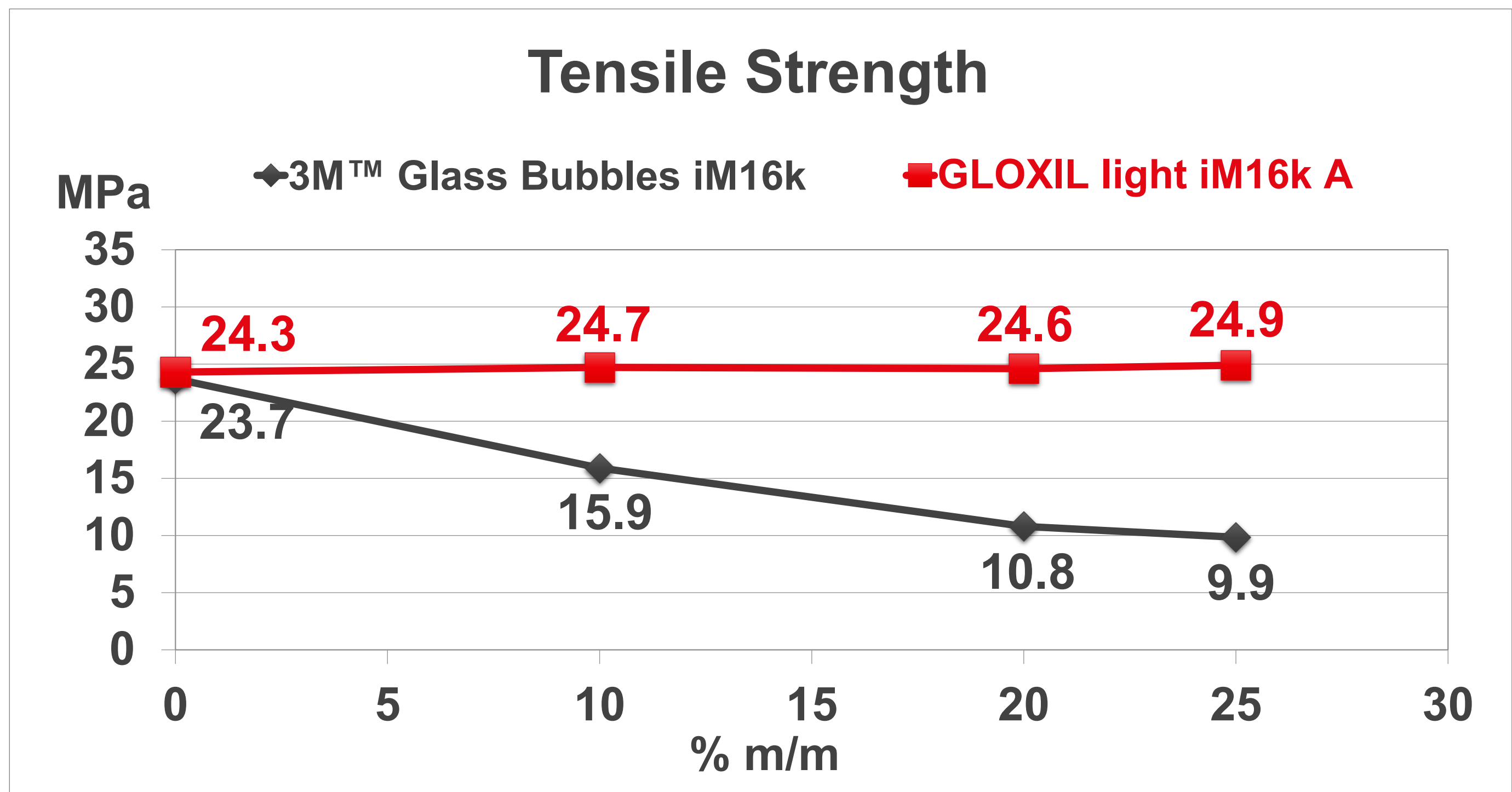
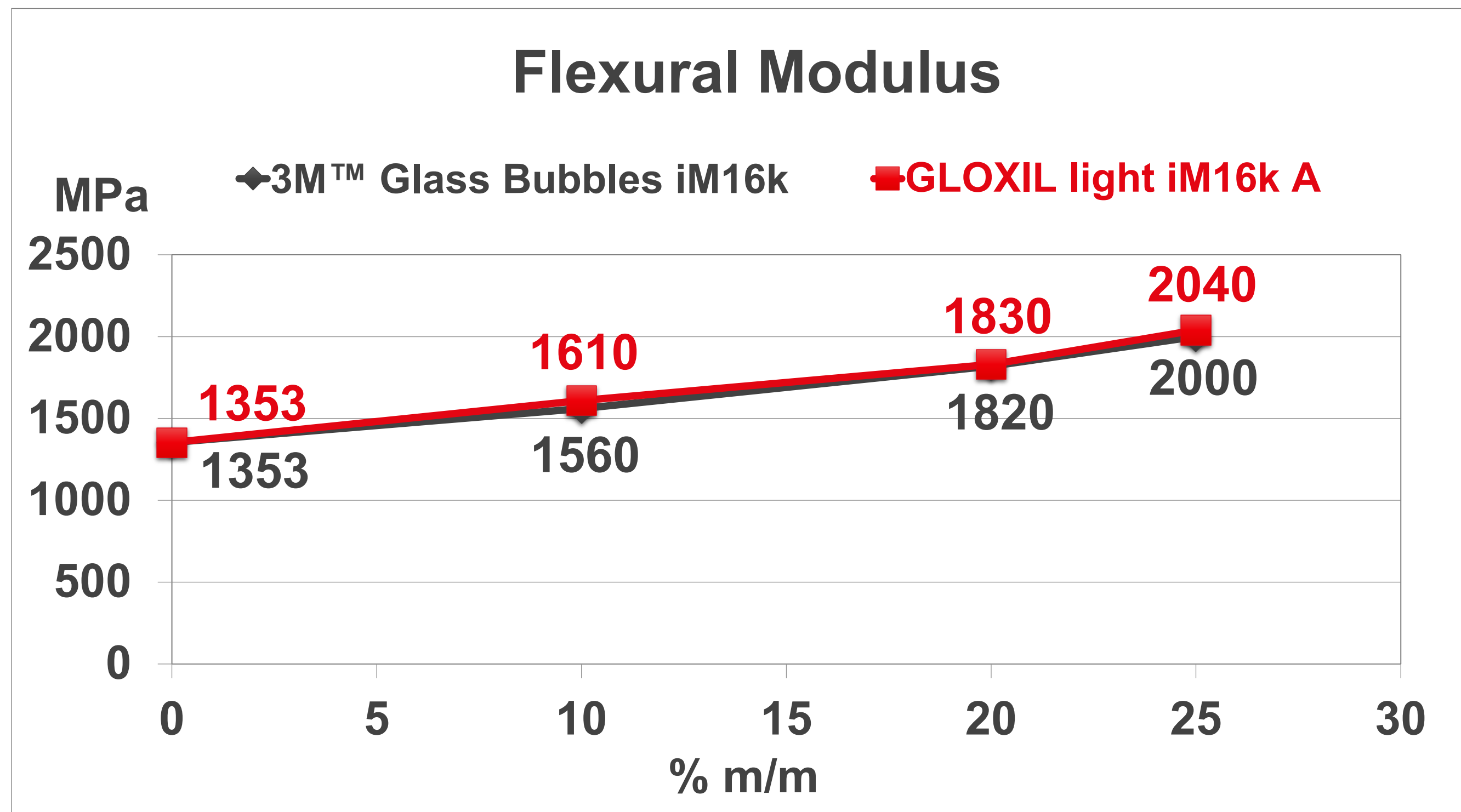
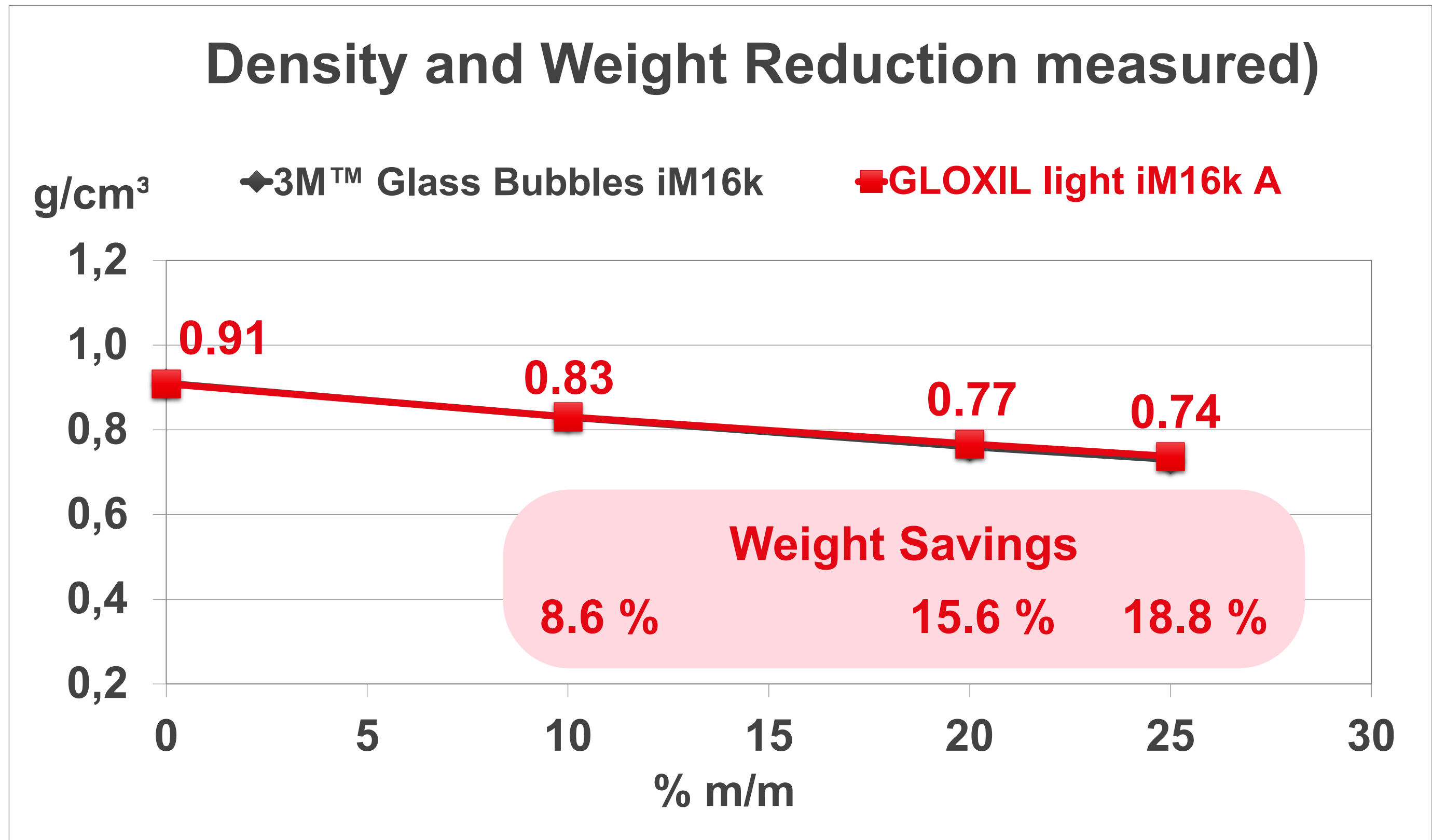


Results

Objective:
Density / weight reduction and still good mechanical properties

PP Compound Copolymer Bormod™ BF970MO		
Borealis		
MFR 20 g/10 min (230 °C, 2.16 kg)		
3M™ Glass Bubbles iM16k	0 to 25 % (m/m) 0 to 40 % (v/v)	---
Scona TPPP 2112 GA PP-g-MAH, approx. 1 % MAH, Byk	---	5 % (m/m)
GLOXIL light iM16k A	---	0 to 25 % (m/m) 0 to 40 % (v/v)
Total	100	100

Data determined by 3M Advanced Materials Division, Special Additives Laboratory



Summary

GLOXIL light iM16k A shows in comparison to the untreated hollow glass spheres:

- Same density and thus weight saving potential
- Comparable increase in stiffness (tensile modulus and flexural modulus)
- + Significantly higher tensile strength, largely independent of the filler content at the level of the unfilled PP copolymer
- + Significantly higher flexural strength, with increasing filler content even higher than the unfilled PP copolymer
- + Higher impact strength
- + Higher notched impact strength

→ **Objective achieved: density / weight reduction and good mechanical properties**

- + Expectation: improved scratch resistance and reduced visibility of scratch marks

Note on efficient dosing of PP-g-MAH:
Concentration should be in the range of 10 to 15 % (m/m), based on the GLOXIL light iM16k A dosage (applies to MAH content in PP-g-MAH of approx. 1 %, for other contents the concentration should be adjusted accordingly)