GLOXIL light iM16k A in Polyamide PA6 GF15

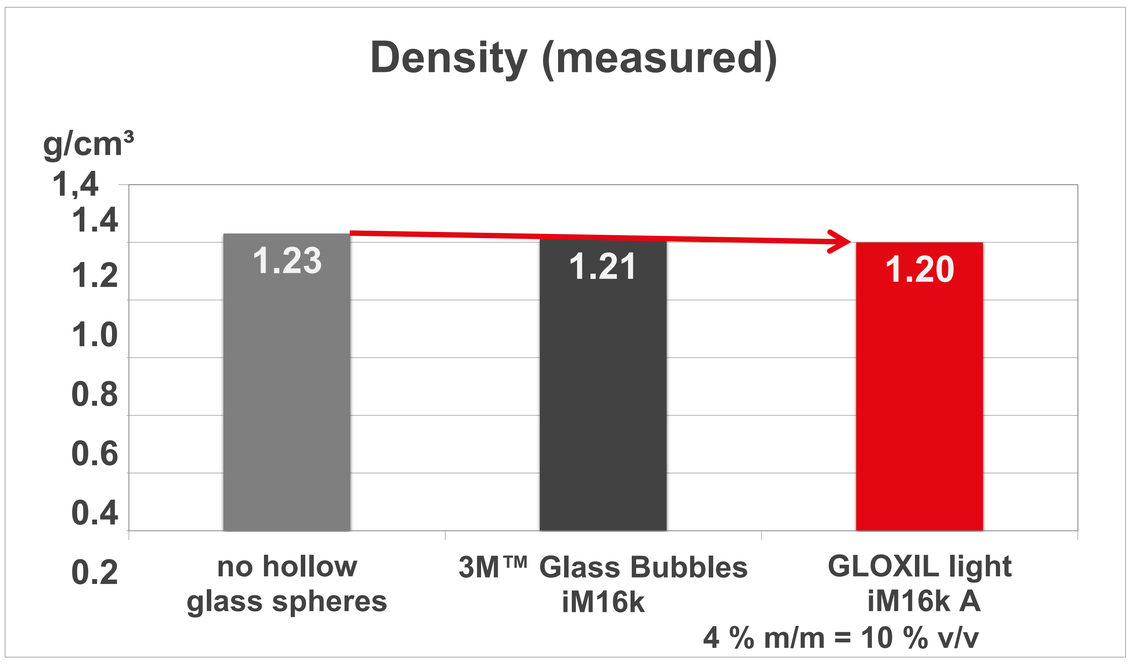
Results

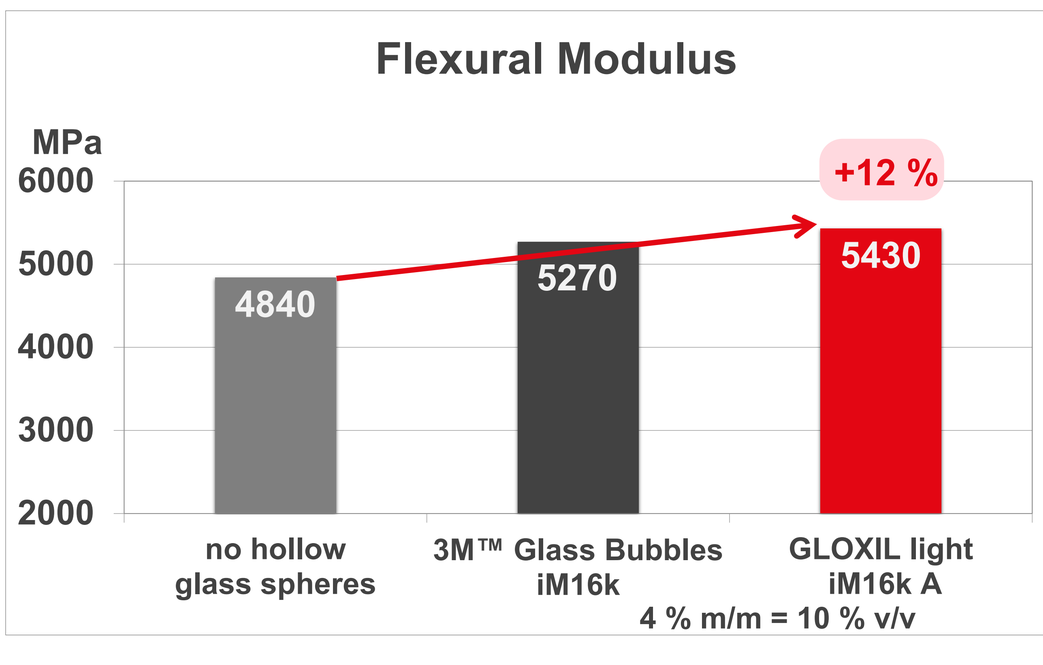
Objective:
Increase of filler content/stiffness without increase of density/weight and still good mechanical properties

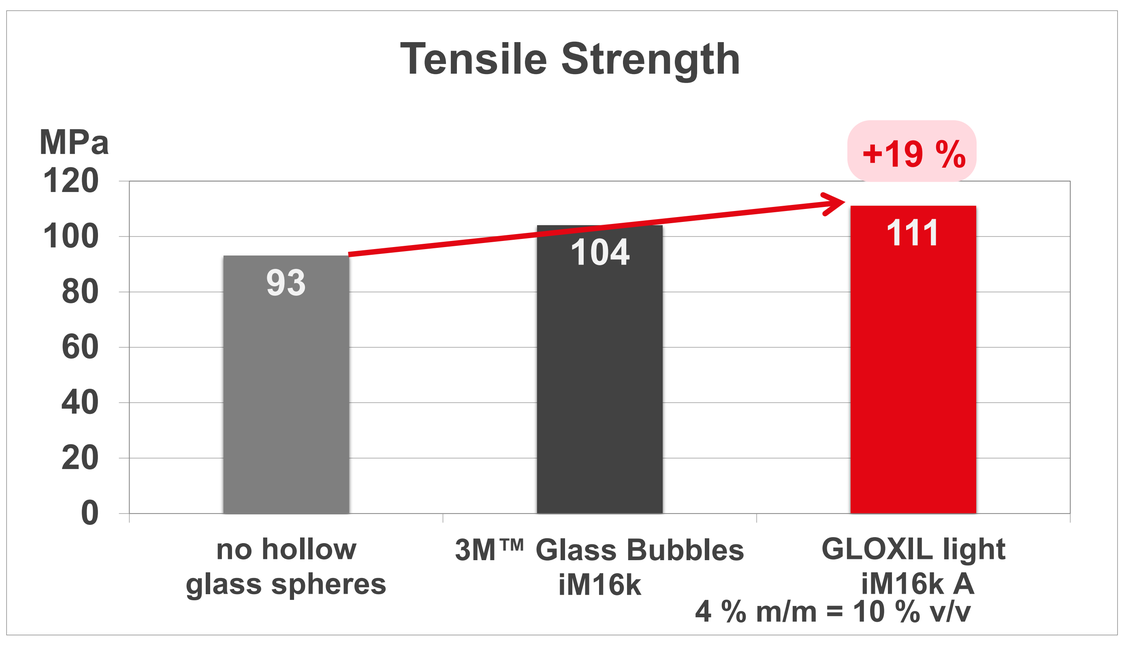
PA Compound Ultramid® B3K
BASF
Melt volume rate MVR 160 cm³/10 min (275 °C, 5 kg)

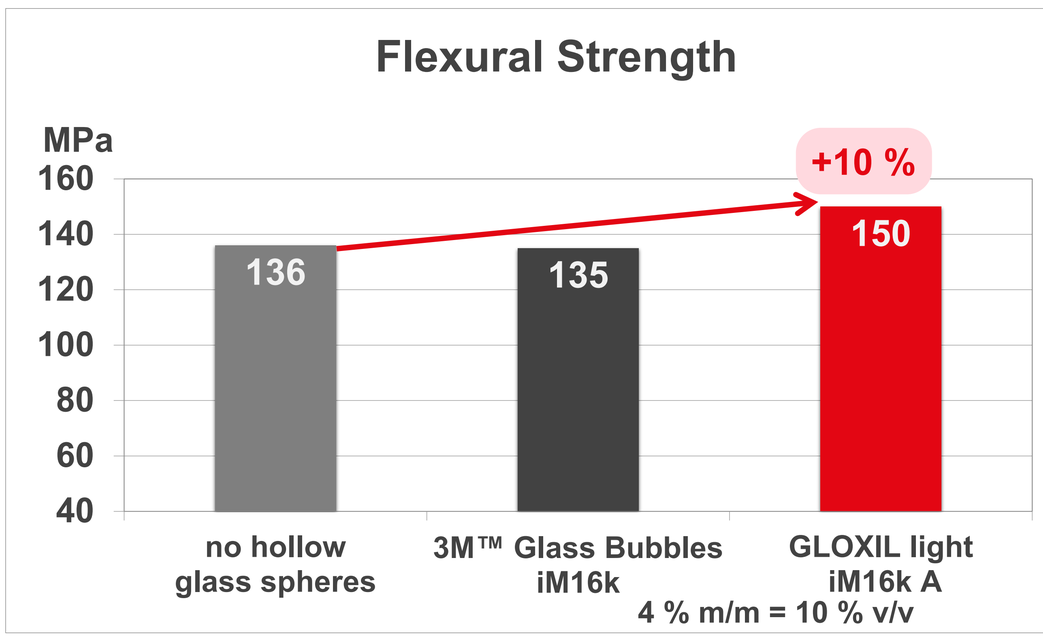
Glass fibers	15 % (m/m) 8 % (v/v)	17 % (m/m) 8 % (v/v)	17 % (m/m) 8 % (v/v)
3M™ Glass Bubbles iM16k	---	4 % (m/m) 10 % (v/v)	---
GLOXIL light iM16k A	---	---	4 % (m/m) 10 % (v/v)
Total	100	100	100

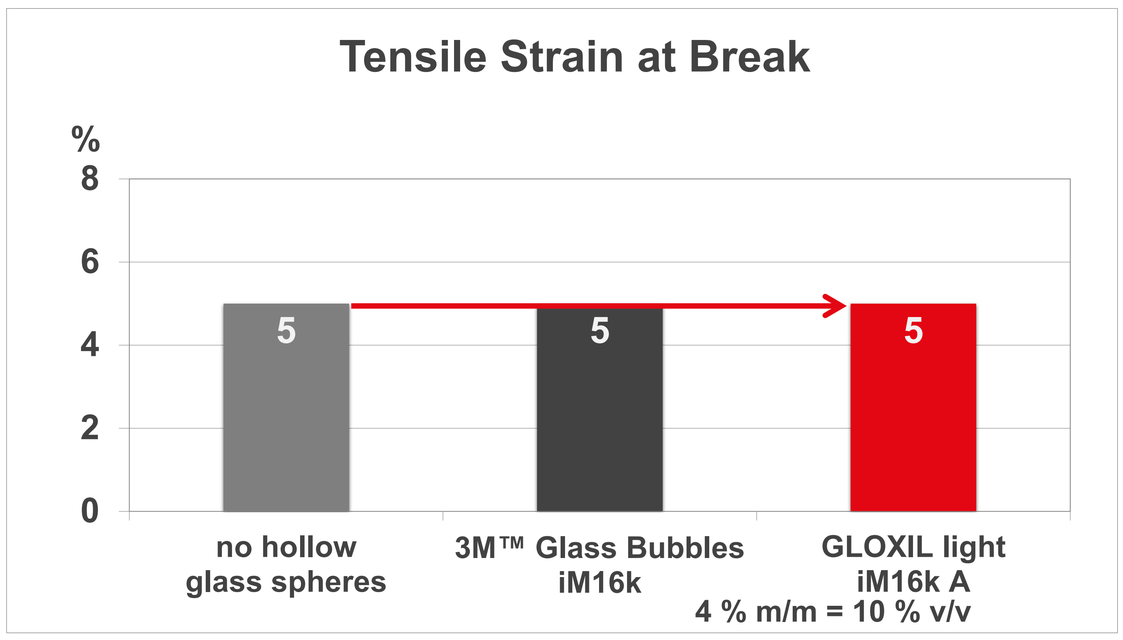
Data determined by 3M Advanced Materials Division, Special Additives Laboratory

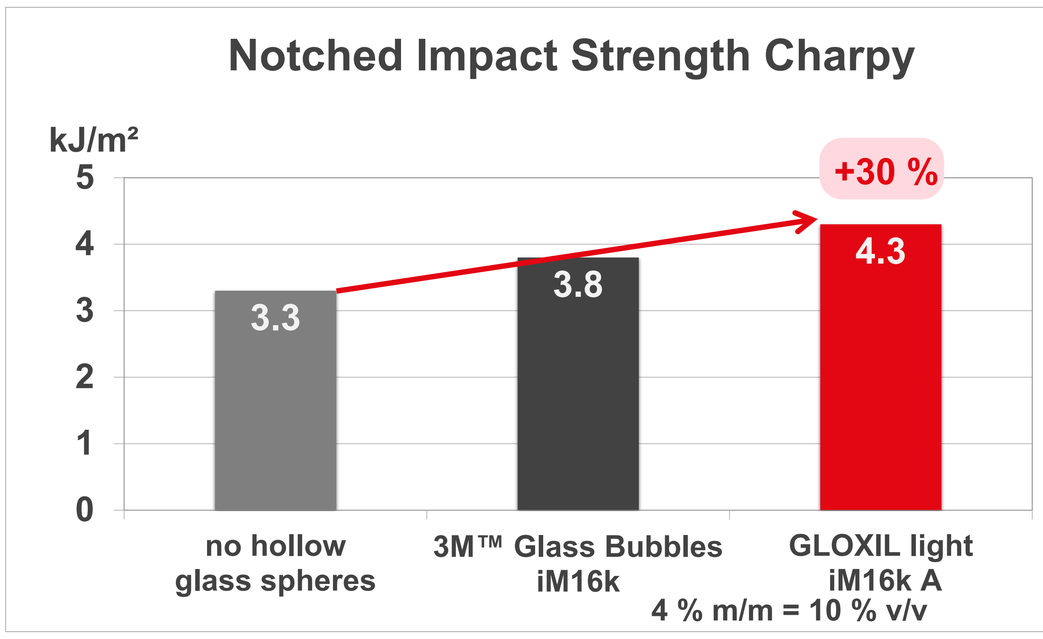












Summary

GLOXIL light iM16k A as an additive to PA6 GF 15 shows in comparison to PA6 GF 15 without hollow glass spheres:

- ➢ Slightly lower impact strength
- • Slightly reduced density and thus weight saving potential
- \+ Increase in stiffness (tensile modulus and flexural modulus)
- \+ Increase in tensile strength with unchanged tensile strain at break
- \+ Increase in flexural strength
- \+ Increase in notched impact strength

→ Objective achieved:
higher stiffness without increase in density / weight and good mechanical properties

- \+ Expectation: improved scratch resistance