GLOXIL light iM16k A in Polyamide PA6

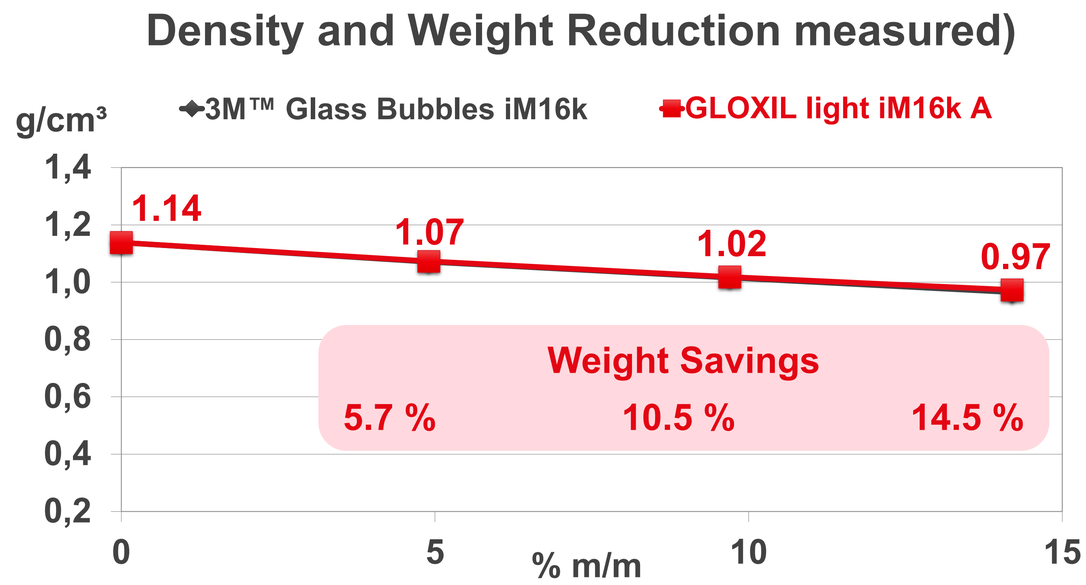
Results

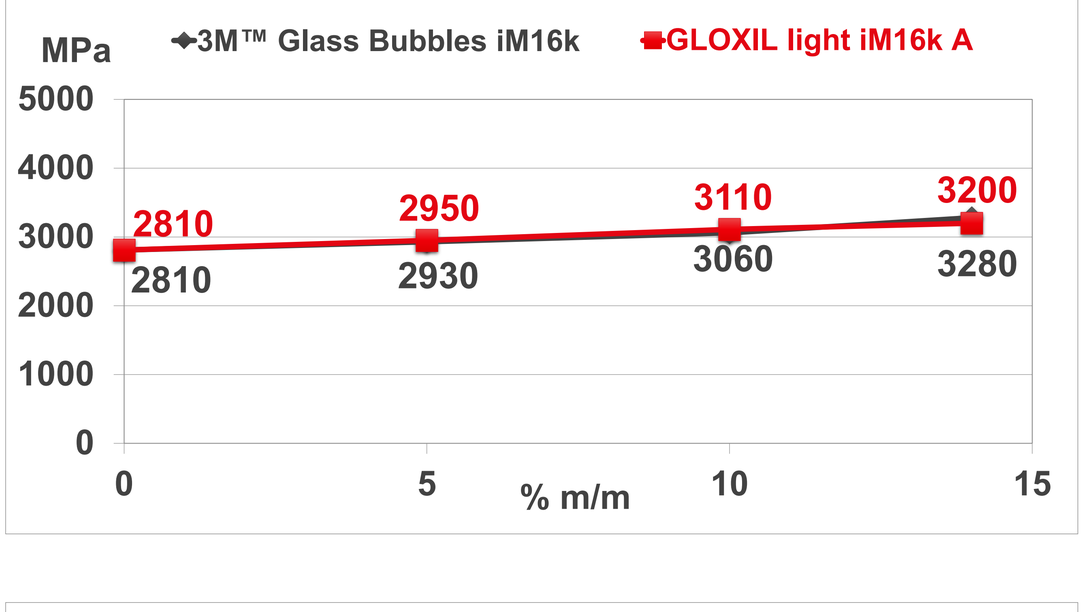
Objective:
Density / weight reduction and still good mechanical properties

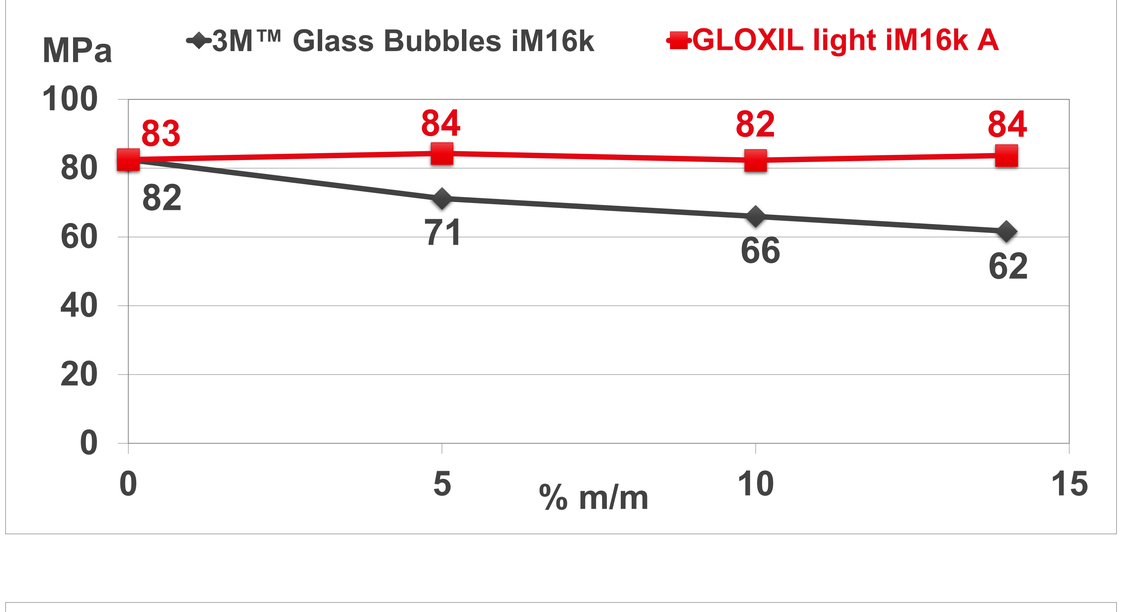
PA Compound Ultramid® B3K
BASF
Melt volume rate MVR 160 cm³/10 min (275 °C, 5 kg)

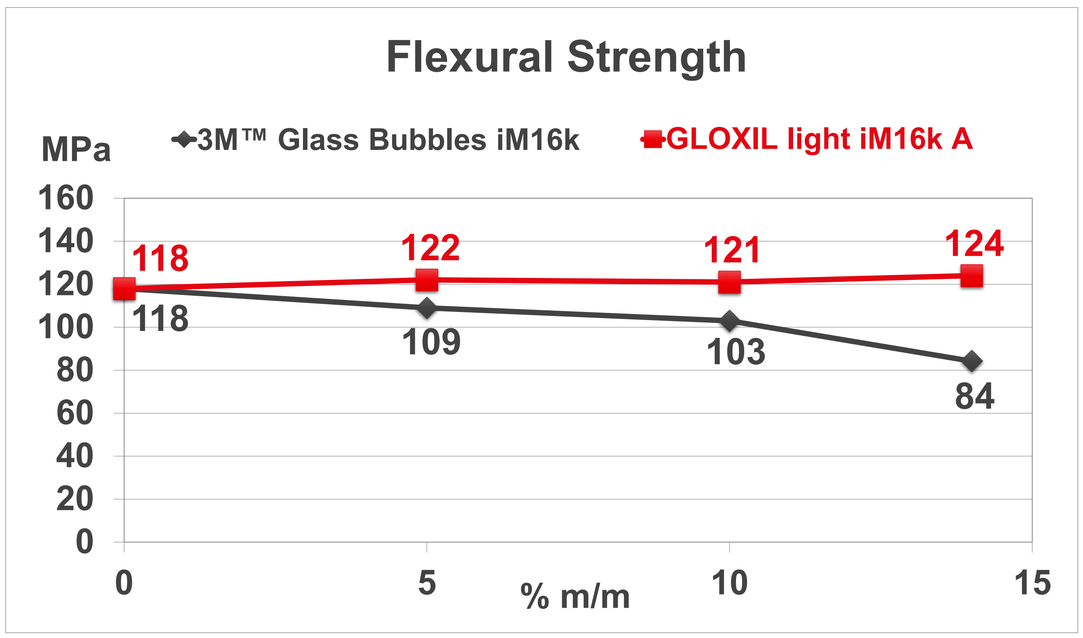
3M™ Glass Bubbles iM16k	0 to 14 % (m/m) 0 to 29 % (v/v)	---
GLOXIL light iM16k A	---	0 to 14 % (m/m) 0 to 29 % (v/v)
Total	100	100

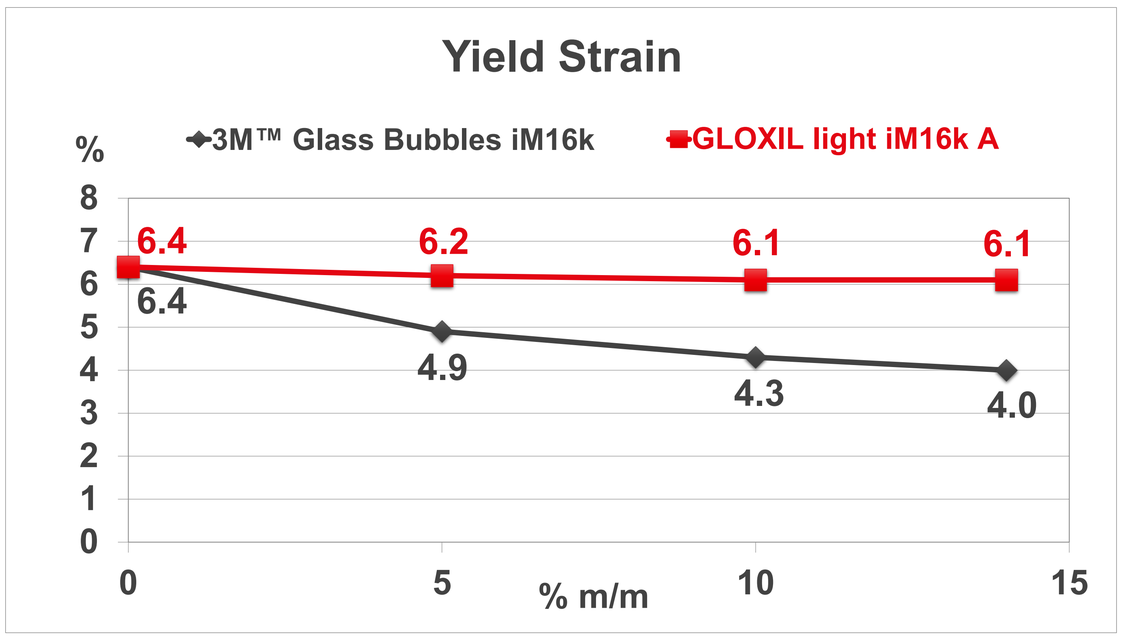
Data determined by 3M Advanced Materials Division, Special Additives Laboratory

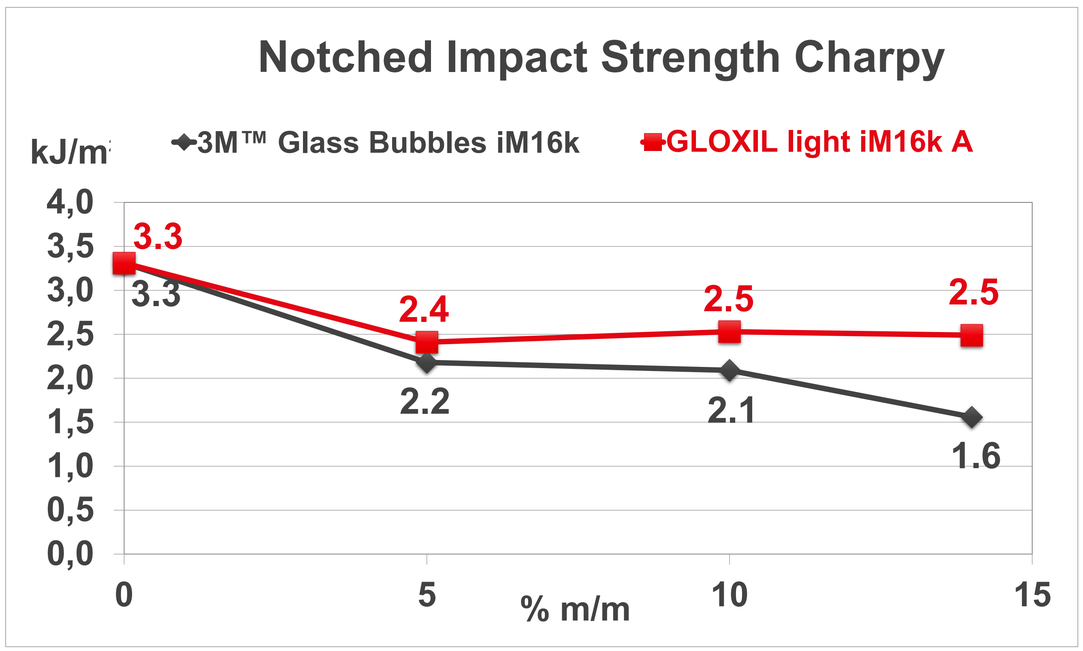












Summary

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 yield stress, largely independent of the filler content at the level of the unfilled PA6
+ Significantly higher yield strain, largely independent of the filler content at the level of the unfilled PA6
+ Significantly higher flexural strength, with increasing filler content even higher than the unfilled PA6
+ Slightly higher impact strength
+ Slightly higher notched impact strength

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

+ Expectation: improved scratch resistance