

Besides WINDFORM XT, WINDFORM FX is the material with the HIGHEST SPECIFIC UTS, higher than the other NOT FILLED SLS MATERIALS but also than all the PARTICLES FILLED SLS MATERIALS and all the HIGH PERFORMANCE SLA MATERIALS. On the other side, WINDFORM FX has the LOWEST SPECIFIC YOUNG MODULUS: this means that it is the most flexible material even having a very high tensile strength and being the lightest. NOT FILLED SLS MATERIALS in fact, having low young modulus values, mainly suit repeated bending and torsion solicitations (fatigue) and should have an excellent crash resistance and a great consistence.

This means that **WINDFORM FX is the material that suits better this kind of applications.**

PARTICLES FILLED SLS MATERIALS are created to have HIGHER SPECIFIC UTS COMBINED WITH HIGHER STIFFNESS (YOUNG MODULUS). LIGHTNESS is one of the KEY PROPERTIES for their standard applications. The properties of these materials are therefore the high resistance at break, the high stiffness and the lightness. **WINDFORM PRO is the best placed one**, just before WINDFORM PRO B AND WINDFORM GF. The other PARTICLES FILLED SLS MATERIALS have lower values and are generally heavier.

The HIGH PERFORMANCE SLA MATERIALS' data proof that they have a HIGH UTS and a HIGH YOUNG MODULUS, being therefore stiff materials and with a good UTS. The worse property is the weight for sure: they are all the heaviest. Moreover they usually are very brittle and fragile, not suiting therefore repeated solicitations, torsions and crashes.

The **Carbon Fibre Filled WINDFORM XT** has the HIGHEST SPECIFIC UTS and the HIGHEST SPECIFIC YOUNG MODULUS AT THE SAME TIME. It means it is the lightest material with the best compromise among stiffness, resistance at break, resistance at repeated bending and torsion solicitations and tensile strength. It is the only material able to reach this level.

This Rapid Prototyping material comparison is very useful to choose the right material with the right properties for each application.

