# Supplementary

**Figure S1** shows the relation between the estimated tensile modulus, *Ecal*, and secondary tensile modulus, *E\*cal*, of the HFRP specimens with the hybrid ratio (** = *VF*(*E-glass*)/(*VF*(*IMS60*) + *VF*(*E-glass*))). The experimental results are also shown in **Fig. S1**.



**Figure S1.** Relation between the tensile modulus and secondary tensile modulus

of the HFRP specimens versus the hybrid ratio.

**Figure S2** shows the relation between the estimated tensile strength, *σf.cal*, secondary fracture strength, *σ\*f.cal*, failure strain, *εf.cal*, and secondary failure strain, *ε\*f.cal*, of the HFRP specimens with the hybrid ratio. The experimental results are also shown in **Fig. S2**.



**Figure S2.** Relation between the tensile strength, secondary fracture strength, failure strain,

and secondary failure strain of the HFRP specimens with the hybrid ratio.

(a) tensile strength and secondary fracture strength and (b) failure strain and secondary failure strain.

**Figure S3** shows the Weibull modulus, *m* of the HFRP specimens as a function of the hybrid ratio, hybrid parameter, and tensile properties (modulus, strength, and failure strain).







**Figure S3.** Weibull modulus of HFRP specimens as a function of hybrid ratio, hybrid parameter,

and tensile properties (modulus, strength, and failure strain):

(a) hybrid ratio, (b) hybrid parameter, (c) tensile modulus, (d) tensile strength, and (e) failure strain.

**Figure S4** shows the difference between the experimental and estimated results ((*Xexp−Xcal*)/*Xcal*, and *X* is the maximum applied stress for the same cycles) as a function of the hybrid ratio and hybrid parameter.



**Figure S4.** Difference between the experimental and estimated results

as a function of the (a) hybrid ratio and (b) hybrid parameter.