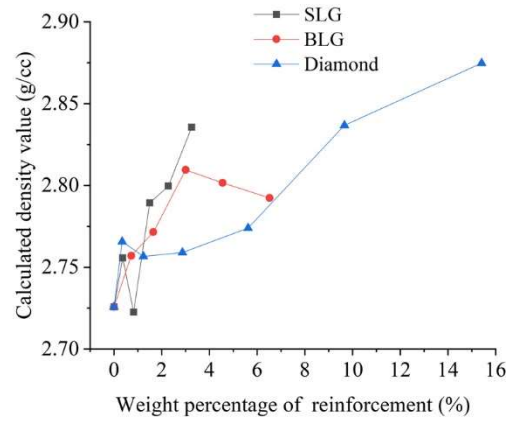
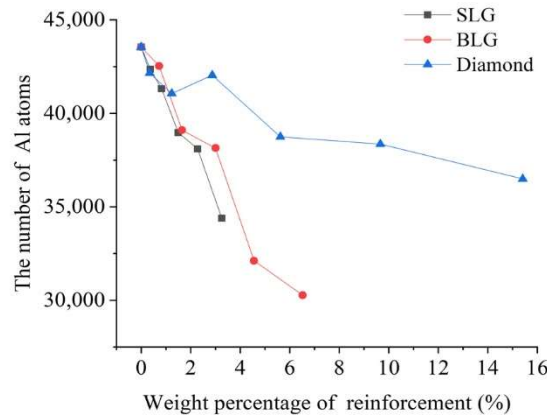


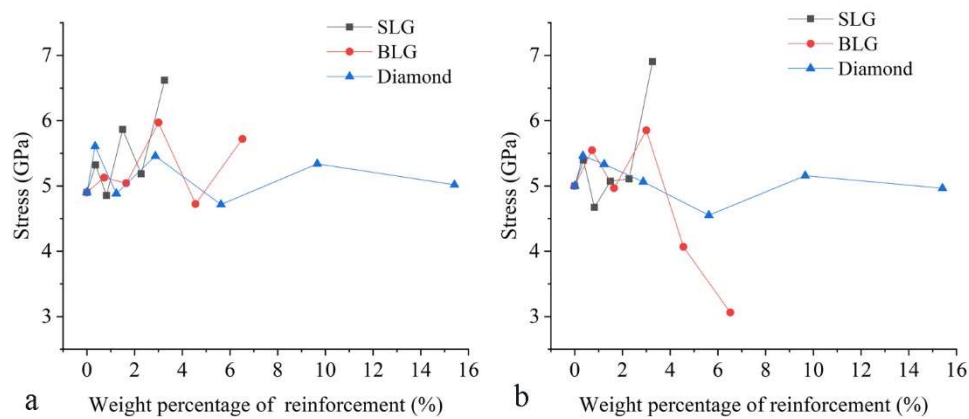
## Supplementary materials



**Figure S1.** Calculated density as a function of the weight percentage of reinforcement.



**Figure S2.** Total number of Al atoms arranged in the face-centered cubic (f.c.c.) and hexagonal close-packed (h.c.p.) lattices as a function of weight percentage of reinforcement.



**Figure S3.** Tensile strength as a function of the weight percentage of reinforcement in the different systems, which were separately stretched in the (a) Y direction and (b) Z direction.