

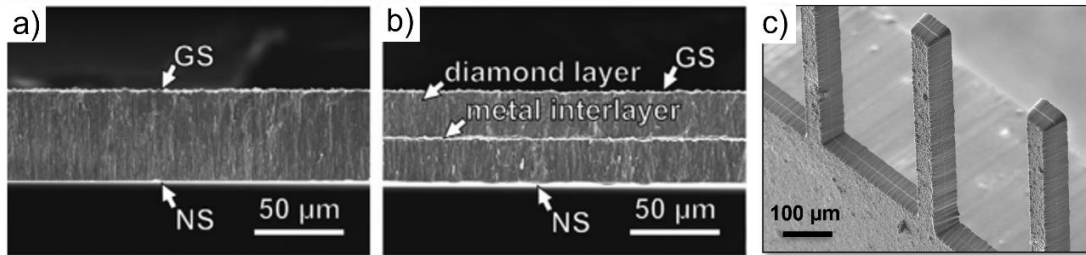
# Understanding and validating the fracture behavior of damage tolerant diamond-metal laminates

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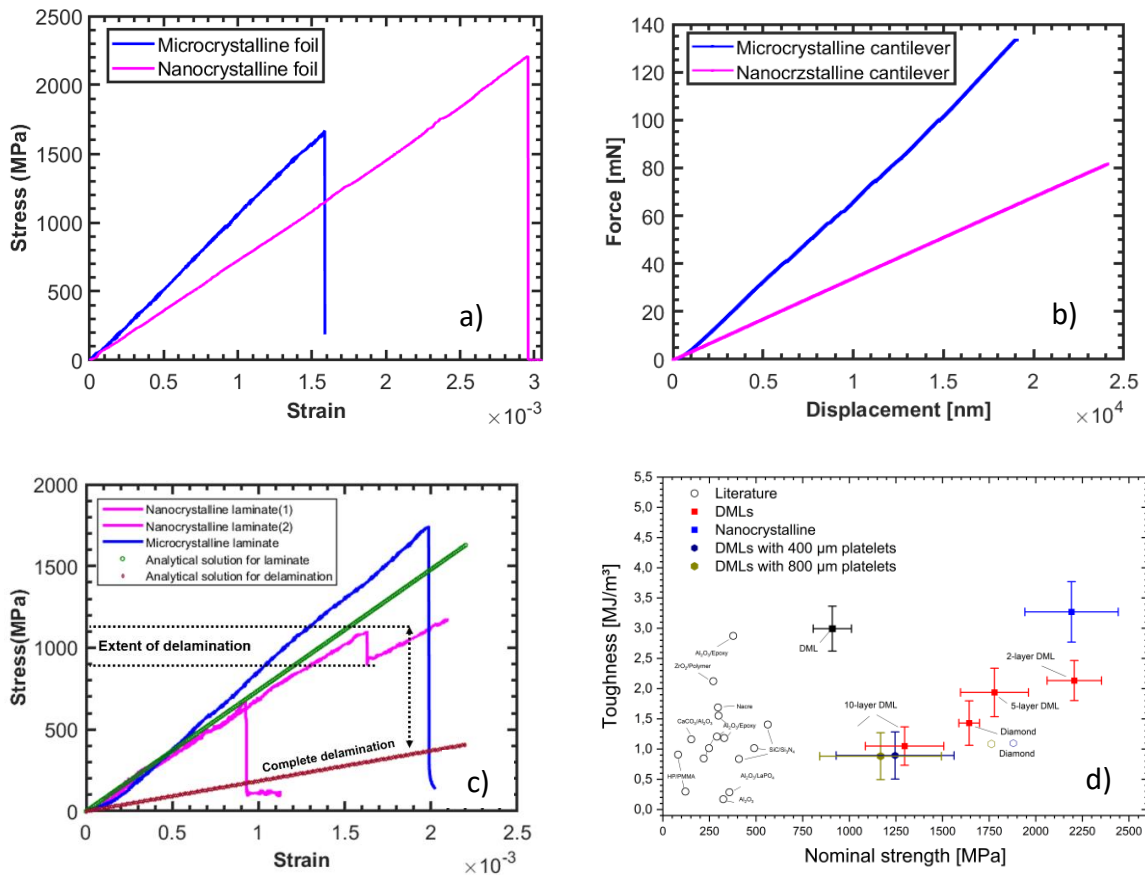
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**Figure 1.** Cross-sections of the free-standing microcrystalline a) diamond foil b) two-layer laminate c) two-layer laminate cantilever realized with femtosecond laser



**Figure 2.** Micro and nanocrystalline flexural behavior in a) 3PB b) cantilever c) two-layer laminate in 3PB and analytical model d) Overall toughness and strength comparisons

The overall results suggested there is a strong dependency on crystallite size of diamond on fracture sensitivity and also number of layers. In-situ correlations with analytical models emphasizes the importance of an interface for controlled delamination and cracking.