



Standard Terminology of Structural Sandwich Constructions¹

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1. Scope

1.1 This terminology covers terms necessary for a basic uniform understanding and usage of the language peculiar to structural sandwich constructions. The simplest structural sandwich is a three layered construction formed by bonding a thin layer (facing) to each side of a thick layer (core).

2. Terminology

co-curing, *n*—curing a composite laminate and simultaneously bonding it to the sandwich core.

co-fab, *n*—fabrication process where close-outs and inserts are bonded into the panel the same time the facings are bonded to the core.

core, *n*—a centrally located layer of a sandwich construction, usually low density, which separates and stabilizes the facings and transmits shear between the facings and provides most of the shear rigidity of the construction.

doublers, *n*—an extra piece of facing attached to strength or stiffen the panel or to distribute the load more widely to the core.

facing delamination, *n*—where the facing becomes disbonded from the core.

face dimpling, *n*—buckling of the compressive facing into the individual cells of the honeycomb core due to compressive loading or the prepreg facing sagging into the individual honeycomb cells during cocure.

face wrinkling, *n*—buckling of the compressive facing into or away from the core. This progresses the width of the panel and causes failure.

facing, *n*—the outermost layer or composite component of a sandwich construction, generally thin and of high density, which resists most of the edgewise loads and flatwise bending moments: synonymous with face, skin and facesheet.

inserts, *n*—apparatus placed into the sandwich for attaching items: synonymous with hard points.

shear crimping, *n*—buckling of the compressive facing due to low core shear modulus. Usually causes the core to fail in shear at the crimp.

structural sandwich construction, *n*—a laminar construction comprising a combination or alternating dissimilar simple or composite materials assembled and intimately fixed in relation to each other so as to use the properties of each to attain specific structural advantages for the whole assembly.

3. Keywords

3.1 core; facing; loads; rigidity; sandwich; sandwich construction; stiffness

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