MATERIAL DATA SHEET

HexPly 913G-E-5-30 E-glass/913 UD layer inputs (CC BY)

Exact-product nominal cured-ply thickness and directional layer-model inputs for HexPly E-glass/913 UD prepreg.

Field	Value
Material ID	iop-hexply-913g-e-5-30-ud-layer-inputs
Category	Composite
Condition	HexPly 913G-E-5-30 E-glass/913 cured UD layer in an adaptive-inlet research panel | unidirectional E-glass/913 prepreg layer; three-to-six-ply variable-thickness panel
Unit system	Common SI
Unit contract	Material properties stored in SI engineering units.
Generated	2026-11-15 23:02

Source and Validity

Field	Value
Quality	Unknown
Design release allowed	No
Source family	peer_reviewed_open_article
Confidence	Reference-grade
License	Open
Source note	Exact-system CC BY research-panel layer inputs with a disclosed missing density-unit interpretation.
Citation	G. Arena, R. M. J. Groh, R. Theunissen, P. M. Weaver, and A. Pirrera, Design and testing of a passively adaptive inlet, Smart Materials and Structures 27 (2018) 085019, section 3.1 and Table 1, doi:10.1088/1361-665X/aacf79, https://doi.org/10.1088/1361-665X/aacf79.
Valid temperature	Table 1 does not state a use or measurement temperature for the model inputs.
Valid pressure	Pressure dependence is not represented.
Valid phase / condition	HexPly 913G-E-5-30 E-glass/913 cured UD layer in an adaptive-inlet research panel
Uncertainty	The article identifies the exact prepreg as conventional HexPly 913G-E-5-30 UD E-glass/913 and uses the Table 1 values as layer inputs for a research-panel finite-element model. It provides no batch identifier, material-test methods, sample counts, scatter, guarantee or qualification basis. The stated vacuum-bag cycle describes the demonstrated three-to-six-ply panel and is not represented as a universal supplier cure schedule. Table 1 prints Density 1900 without a unit; PropLib interprets the magnitude as kg/m^3, labels that interpretation explicitly and retains source_unit as not stated.
Last reviewed	2026-08-03
Reviewer	scripts/import_iop_e_glass_913_public.py

Field	Value
Review status	Checked
Review scope	Checked the CC BY 3.0 notice, DOI, PDF identity/hash, exact product name, table values and units, missing density unit, and the panel cure text.
Notes	The article identifies the exact prepreg as conventional HexPly 913G-E-5-30 UD E-glass/913 and uses the Table 1 values as layer inputs for a research-panel finite-element model. It provides no batch identifier, material-test methods, sample counts, scatter, guarantee or qualification basis. The stated vacuum-bag cycle describes the demonstrated three-to-six-ply panel and is not represented as a universal supplier cure schedule. Table 1 prints Density 1900 without a unit; PropLib interprets the magnitude as kg/m^3, labels that interpretation explicitly and retains source_unit as not stated.
License ID	CC-BY-3.0
License URL	https://creativecommons.org/licenses/by/3.0/
Attribution	Arena, Groh, Theunissen, Weaver, and Pirrera (2018), Smart Materials and Structures 27 085019

Material Condition

Field	Value
Condition	HexPly 913G-E-5-30 E-glass/913 cured UD layer in an adaptive-inlet research panel
Temper	not applicable
Heat treatment	source panel vacuum-bag cured at 125 degC and 1 bar for 60 min with 2 degC/min heat-up
Product form	unidirectional E-glass/913 prepreg layer; three-to-six-ply variable-thickness panel
Thickness / diameter range	0.125 mm nominal cured ply thickness
Test direction	longitudinal E1 and transverse E2 layer axes
Processing route	conventional UD prepreg, vacuum-bag cured for the reported research panel
Temperature range	Table 1 does not state a use or measurement temperature for the model inputs.
Notes	The article identifies the exact prepreg as conventional HexPly 913G-E-5-30 UD E-glass/913 and uses the Table 1 values as layer inputs for a research-panel finite-element model. It provides no batch identifier, material-test methods, sample counts, scatter, guarantee or qualification basis. The stated vacuum-bag cycle describes the demonstrated three-to-six-ply panel and is not represented as a universal supplier cure schedule. Table 1 prints Density 1900 without a unit; PropLib interprets the magnitude as kg/m^3, labels that interpretation explicitly and retains source_unit as not stated.

Properties

Physical

Property	Value	Unit	Type	Applies to
Density	1900.0	kg/m^3	Source Reported Research Model Input Screening	HexPly 913G-E-5-30 unidirectional E-glass/913 cured layer used in the Arena et al. adaptive-inlet panel
Ply thickness	0.125	mm	Source Reported Research Model Input Screening	HexPly 913G-E-5-30 unidirectional E-glass/913 cured layer used in the Arena et al. adaptive-inlet panel

Mechanical

Property	Value	Unit	Type	Applies to
Longitudinal tensile modulus	38.7	GPa	Source Reported Research Model Input Screening	HexPly 913G-E-5-30 unidirectional E-glass/913 cured layer used in the Arena et al. adaptive-inlet panel
Transverse tensile modulus	15.4	GPa	Source Reported Research Model Input Screening	HexPly 913G-E-5-30 unidirectional E-glass/913 cured layer used in the Arena et al. adaptive-inlet panel

Engineering note: seed solid-material values are reference values only. Verify against the project material specification or supplier data sheet before release.