MATERIAL DATA SHEET

T300/DFVLR BSL914C UD ply pristine inputs (NASA/WWFE)

Organizer-provided directional ply inputs for exact T300/BSL914C epoxy identity.

Field	Value
Material ID	nasa-tm107331-t300-bsl914c-ud-pristine-inputs
Category	Composite
Condition	T300/DFVLR BSL914C cured unidirectional-composite reference input | unidirectional ply/lamina reference input
Unit system	Common SI
Unit contract	Material properties stored in SI engineering units.
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Source and Validity

Field	Value
Quality	Experimental screening
Design release allowed	No
Source family	Government materials report
Confidence	Reference-grade
License	Open
Source note	Exact-system pristine ply inputs reported in an official public-use NASA technical memorandum.
Citation	P. K. Gotsis, C. C. Chamis, and L. Minnetyan, Prediction of Composite Laminate Fracture: Micromechanics and Progressive Fracture, NASA-TM-107331 (1996), Table III; NASA NTRS 19970010089, https://ntrs.nasa.gov/citations/19970010089.
Valid temperature	Table III does not identify the temperature of its pristine reference properties.
Valid pressure	Pressure dependence is not represented.
Valid phase / condition	T300/DFVLR BSL914C cured unidirectional-composite reference input
Uncertainty	The exact table heading is T300/DFVLR BSL914C epoxy. NASA-TM-107331 says the pristine unidirectional-composite data were provided by the World-Wide Failure Exercise organizers; it does not present them as NASA measurements. PropLib imports only the table's pristine ply column, not the separate ICAN-calibrated column or any failure-envelope digitization. The BSL/DFVLR variant, unspecified cure/batch/test context and absence of statistics prevent this from being a generic 914C qualification allowable.
Last reviewed	2026-08-03
Reviewer	scripts/import_nasa_legacy_prepregs_public.py
Review status	Checked

Field	Value
Review scope	Checked NTRS public-use status, PDF identity/hash, exact table heading, pristine-versus-ICAN columns, values, units and organizer-provided semantics.
Notes	The exact table heading is T300/DFVLR BSL914C epoxy. NASA-TM-107331 says the pristine unidirectional-composite data were provided by the World-Wide Failure Exercise organizers; it does not present them as NASA measurements. PropLib imports only the table's pristine ply column, not the separate ICAN-calibrated column or any failure-envelope digitization. The BSL/DFVLR variant, unspecified cure/batch/test context and absence of statistics prevent this from being a generic 914C qualification allowable.
License ID	US-GOV-PUBLIC-USE
License URL	https://ntrs.nasa.gov/citations/19970010089
Attribution	National Aeronautics and Space Administration; WWFE organizer-provided inputs

Material Condition

Field	Value
Condition	T300/DFVLR BSL914C cured unidirectional-composite reference input
Temper	not applicable
Heat treatment	cure cycle not stated in NASA-TM-107331 Table III
Product form	unidirectional ply/lamina reference input
Thickness / diameter range	ply thickness not stated; Figure 5 uses a 1 mm unidirectional model laminate
Test direction	longitudinal, transverse and in-plane shear axes as tabulated
Processing route	prepreg-derived unidirectional composite; batch and cure details not supplied
Temperature range	Table III does not identify the temperature of its pristine reference properties.
Notes	The exact table heading is T300/DFVLR BSL914C epoxy. NASA-TM-107331 says the pristine unidirectional-composite data were provided by the World-Wide Failure Exercise organizers; it does not present them as NASA measurements. PropLib imports only the table's pristine ply column, not the separate ICAN-calibrated column or any failure-envelope digitization. The BSL/DFVLR variant, unspecified cure/batch/test context and absence of statistics prevent this from being a generic 914C qualification allowable.

Properties

Physical

Property	Value	Unit	Type	Applies to
Fiber volume fraction	60.0	%	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers

Thermal

Property	Value	Unit	Type	Applies to
Longitudinal thermal expansion coefficient	-0.1	10^-6/K	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Transverse thermal expansion coefficient	26.0	10^-6/K	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers

Mechanical

Property	Value	Unit	Type	Applies to
Longitudinal tensile modulus	138.0	GPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Transverse tensile modulus	11.0	GPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
In-plane shear modulus	5.5	GPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Major Poisson's ratio	0.28	-	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Through-thickness Poisson's ratio	0.4	-	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Longitudinal tensile strength	1500.0	MPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Longitudinal compressive strength	900.0	MPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
Transverse tensile strength	27.0	MPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers

Property	Value	Unit	Type	Applies to
Transverse compressive strength	200.0	MPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers
In-plane shear strength	80.0	MPa	Source Reported Reference Input Screening	T300/DFVLR BSL914C epoxy unidirectional composite; pristine ply-property inputs provided by the World-Wide Failure Exercise organizers

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