THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM

Which Repair Material for Which Part

The first rule is the plain one: replace damaged material with identical chemical composition or a substitute the manufacturer approves.

Parent material and what goes with it

Parent part	Patch and filler	Fasteners and contact	Watch for
Fibreglass laminate (fairings, covers, honeycomb facings)	Same fabric and resin family as the part; putty of room-temperature resin and clean short glass fibres only for damage in the first ply	No galvanic problem with most fastener metals	Wet layup cured at room temperature does not restore the strength of a 250 or 350 °F cured part
Carbon laminate	Titanium or precured carbon/epoxy for highly loaded parts; aluminium only over one layer of fibreglass cloth	Titanium (Ti-6Al-4V is the most common) or stainless; no aluminium fasteners; cadmium plating cathodic	Carbon is cathodic against aluminium and cadmium; rivets are not used
Aramid (Kevlar) laminate	Same aramid fabric; protect the repair from moisture	Fibreglass and aramid do not cause fastener corrosion with most metals	Absorbs up to 8 % of its weight in water; weak in compression; fuzzes and is hard to cut
Aluminium-faced sandwich	Viscous epoxy for dents, scratches or fractures up to 1/4 in; delaminated dents are repaired, not filled	Bolted repairs are not used in honeycomb sandwich	Core replacement: same material and cell size; wood or glass-fabric honeycomb may substitute where permitted
Honeycomb core, composite panel	Plug of the same type, class and grade, cells lined up with the parent	Potting for hard points where bolts or screws go	Potting is heavier than core: control surface balance

Key points

- **No material grades.** Fabric styles, resin systems and core grades come from the SRM; this page lists compatibility rules only.
- **Metal parts.** Only aluminium-faced sandwich is covered; sheet-metal repair is in the sheet-metal guides.
- **Rows are summaries** of handbook paragraphs and may not fit your aircraft.

SOURCES · FAA-H-8083-31B, AMT Handbook — Airframe, Volume 1, Chapter 7 · AC 43.13-1B, Change 1, Chapter 3, Fiberglass and Plastics

SCAN · OPEN THIS GUIDE
theaviationpoint.com/materials/composites/repair-materials/

Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.

THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM