



INNOVA

composite helicopters

QUALITY APPROACH

PROGRAM OVERVIEW

- Innova Composite Helicopters is a new helicopter manufacturing company based in Auckland, New Zealand.
- The C630 is a new all composite, single turbine, 5 place helicopter.
- Our design features a monocoque composite fuselage. This shell is one of the primary structural elements
- As an experimental helicopter we accumulated approximately 250 flight hours on two aircraft.
- Composite Helicopters International was purchased by INNOVA Aerospace in July 2015
- Innova is commencing type certification with the intent of gaining a CAANZ and FAA Type Certificates.



COMPOSITES OVERVIEW

- No novel composite technologies - materials or processes
- Perhaps different to what some of the industry may be familiar with
- Design does not require maximised fibre vol. fractions and thereby prepreg only processes
- Utilise multiple processes to exploit the benefits of each system
- Vacuum infusion for the airframe structure – repeatability and speed
- RTM light for tertiary components – reduced finishing cost
- Autoclave cure prepreg for the main rotor blades – max. strength and fatigue



QUALITY APPROACH

- Darcy's law tells us that pressure, viscosity and permeability are critical to process stability
- Successful infusion is about establishing the parameters and following the rules
- Viscosity
- Permeability & X-section area
- Distance
- Pressure
- Degassing – maximising driving pressure & eliminating moisture and air
- Photo of comparative flow test illustrates effect of permeability





SN001 & SN002

