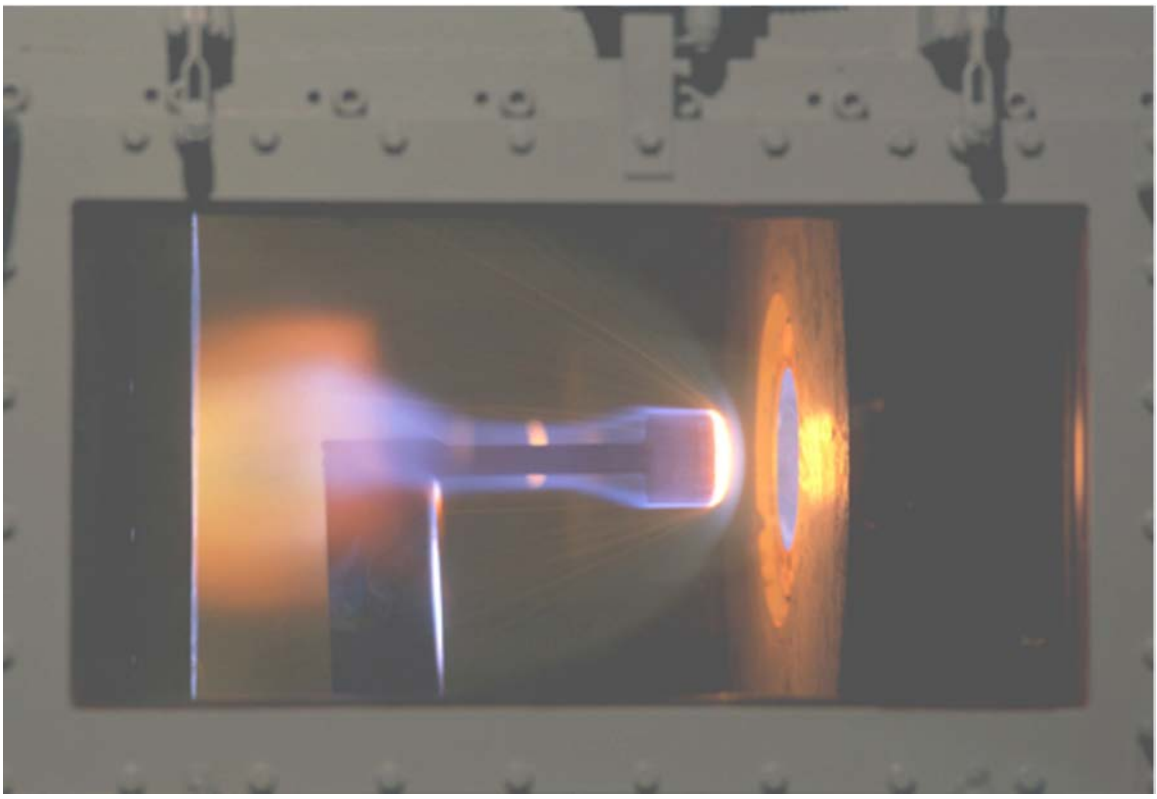
COMPOSITE MATERIALS USED IN AIRCRAFT CONSTRUCTION



"A380 Navigator", 2007, Manufacturing Process. Retrieved November 24, 2007, from http://events.airbus.com/A380/Default2.aspx?ArtId=644

Figure O-1 A380 Rear Pressure Bulkhead

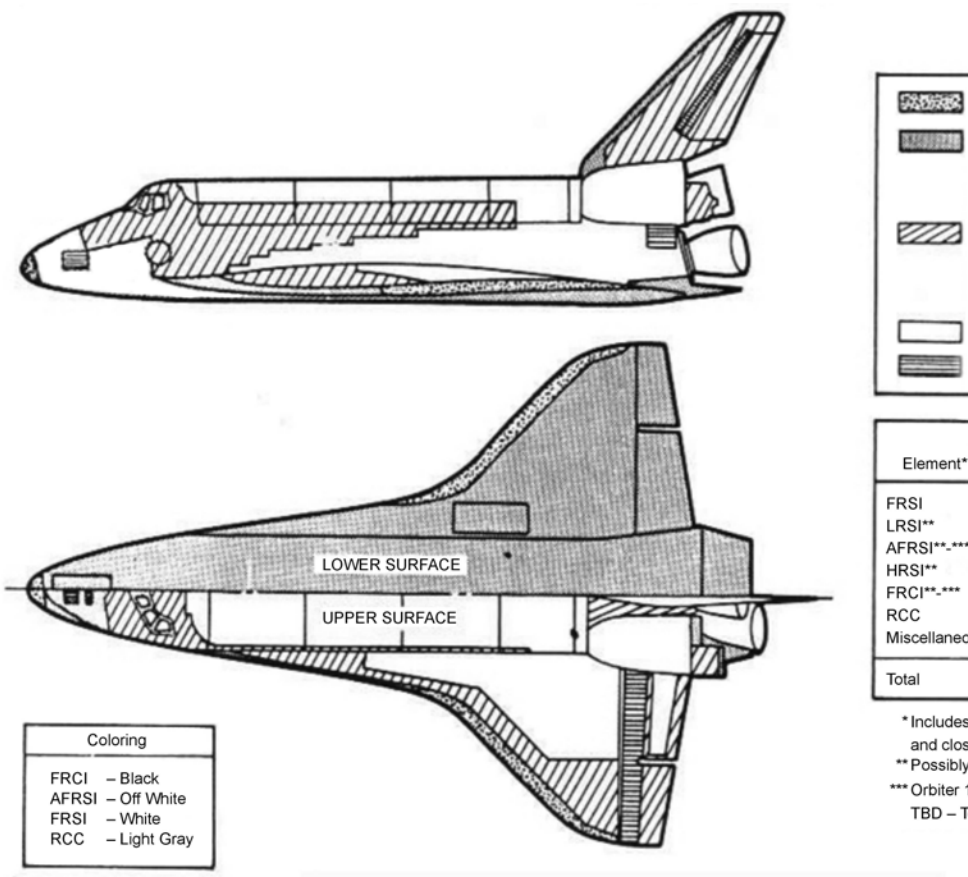
Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.



"US Centennial of Flight Commission", 2004, Shuttle Thermal Protection System. Retrieved November 25, 2007, from http://www.centennialofflight.gov/essay/Evolution_of_Technology/TPS/Tech41.htm

Figure O-2 Testing Thermal Insulation in a Wind Tunnel

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.



Reinforced Carbon-Carbon (RCC)
High-Temperature, Reusable Surface Insulation (HRSI) Fibrous Refractory Composite Insulation (FRCI)
Low Temperature, Reusable Surface Insulation (LRSI) Advanced Flexible Reusable Surface Insulation (AFRSI)
Coated Nomex Felt Reusable Surface Insulation (FRSI)
Metal or Glass

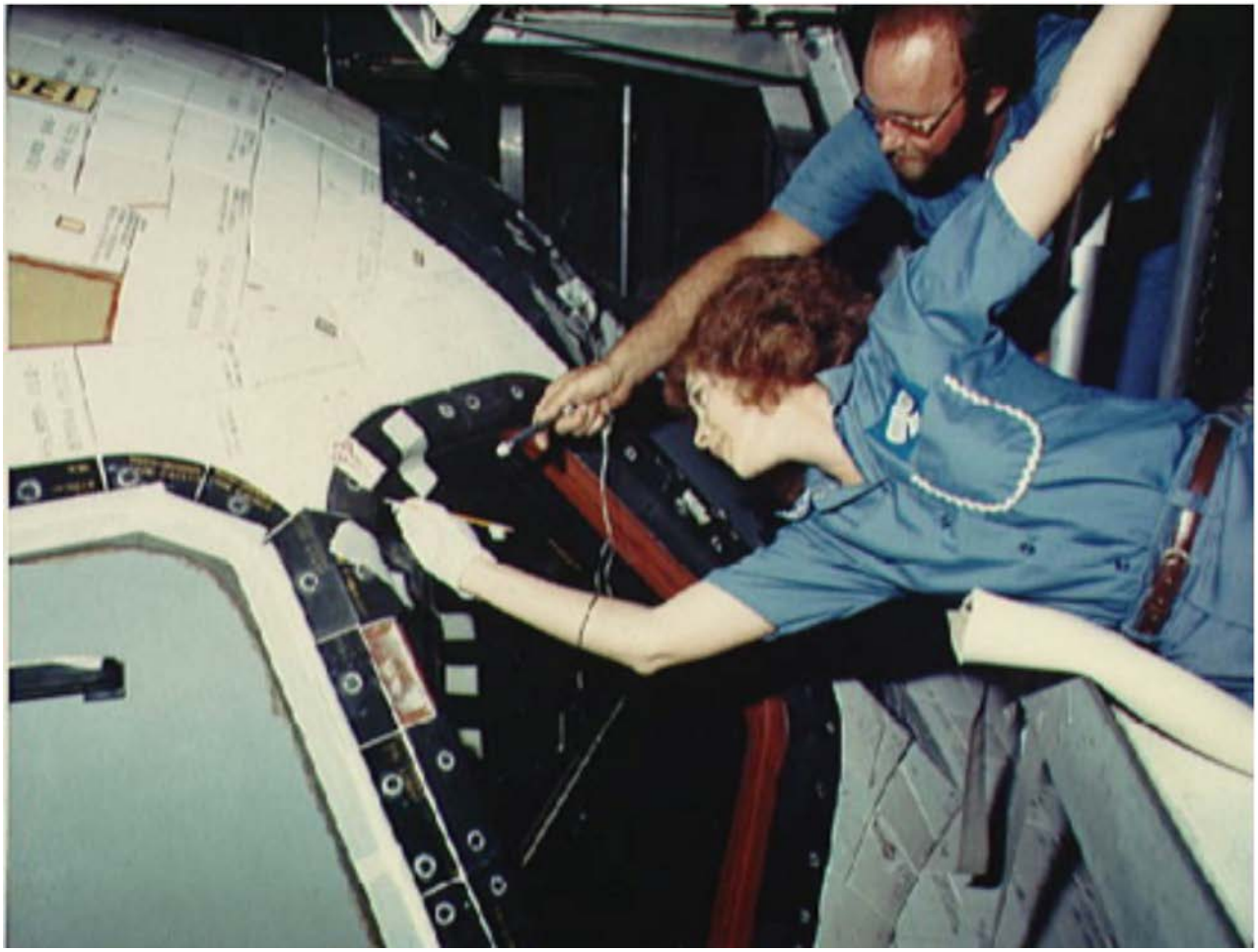
Element*	Area, Sq m (sq-ft)	Weight Kg (lb)
FRSI	332.7 (3581)	532.1 (1173)
LRSI**	TBD	TBD
AFRSI**-***	TBD	TBD
HRSI**	TBD	TBD
FRCI**-***	TBD	TBD
RCC	38.0 (409)	1697.3 (3742)
Miscellaneous		918.5 (2025)
Total	TBD	TBD

* Includes bulk insulation, thermal barriers, and closeouts
** Possibly some of Orbiter -099
*** Orbiter 103 and subsequent
TBD – To Be Determined

"US Centennial of Flight Commission", 2004, Shuttle Thermal Protection System. Retrieved November 25, 2007, from http://www.centennialofflight.gov/essay/Evolution_of_Technology/TPS/Tech41.htm

Figure O-3 Orbiter Thermal Protection System

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Verify against the official publication.



"US Centennial of Flight Commission", 2004, Shuttle Thermal Protection System. Retrieved November 25, 2007, from http://www.centennialofflight.gov/essay/Evolution_of_Technology/TPS/Tech41.htm

Figure O-4 Repairing TPS on Columbia

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Verify against the official publication.