Specifications for RTM of PETI-8 and PETI-330 Panels

1. The contractor shall fabricate up to six (6) composite panels via a high temperature resin transfer molding (RTM) process with the following specifications:
   a) Panel dimensions shall be a minimum of 12 inches by12 inches
   b) Void content shall be less than 3%, verified by acid digestion
      NASA can provide acid digestion testing as an option to the contractor.
   c) Fiber volume fraction shall be greater than 58%, verified by acid digestion.
      NASA can provide acid digestion testing as an option to the contractor.
   d) Panels shall consist of the following resin systems and carbon fabric lay-ups:

1: LaRC™ PETI-8 /	10 plies IM7-6K 5-harness
2: LaRC ™ PETI-330 /	10 plies IM7-6K 5-harness
3: LaRC™ PETI-8 /	10 plies T650-35-3K 8-harness
4: LaRC™ PETI-8 /	10 plies IM7-uniweave
5: LaRC™ PETI-330 /	10 plies IM7-uniweave
6: LaRC™ PETI-8 /	20 plies IM7-uniweave

2. Resins shall be processed with an infusion temperature of around 260°C. Contractor shall determine infusion conditions for their process based on NASA provided resin viscosity data.

3. Infused panels shall be cured at a temperature of 371 °C for one (1) hour.

4. Cured panels shall be ultrasonically inspected to verify panel quality.
   NASA can provide ultrasonic inspections as an option to the contractor.

5. Ultrasonic inspection reports shall be provided with panels.

6. Carbon fabric shall be supplied by NASA:
   a) IM7-6K 5-harness satin woven fabric (GP sizing, 280 gsm),
      Fiber Density = 1.77 g/ml.
   b) T650-35-3K 8-harness satin woven fabric (309 sizing, 366 gsm),
      Fiber Density = 1.77 g/ml.
   c) IM7-6K unidirectionally woven fabric (GP sizing, 160 gsm, Sticky String 450 1/0 fill fiber), Fiber Density = 1.77 g/ml.

7. Polyimide resin powder and viscosity data shall be supplied by NASA:
   a) LaRC™ PETI-8
   b) LaRC™ PETI-330

8. Contractor shall provide a cost structure/ proposal for fabricating one (1) to six (6) panels.

9. NASA shall provide panel priority and number to be fabricated at contract award based on proposed cost and schedule.

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