

CSIR-NAL Project Procurement details Tentative List [2024-25](#) as on [5th March 2024](#)

SI NO	Description	QTY
1	High speed camera with 4MP resolution @ Min 7000 fps with double exposure mode capability for PIV	1
2	Aerosol seed generator capable of producing particle diameter size of 0.3nm and capable of injecting seed particles inside high pressure environment	1
3	Laser optics Support rails and high power optical surface mounts	1 set
4	High damage threshold optics for PIV measurement	1
5	Pressure sensitive paint	5 kits
6	LED light	
7	Light arm with length 1.5m and above. Longer length is preferred. Capable of withstanding 650mJ @10Hz laser power, laser beam diameter, 8mm @532nm	1
8	Computer high end for post processing PIV images, with SSD hard disk, 256GB ram and 3TB storage, 8 USB 3 ports for connection with PIV devices	4
9	Carbon UD Prepreg	100 sqm
10	Supply of Epoxy Tooling Bulk Ply preperg LTC216-3	150 sqm
11	Carbon BD Prepreg	50 sqm
12	High specific energy density battery and smart BMS	4 kWh
13	High efficiency flexible solar arrays	25 sqm
14	High power density BLDC motors for high altitude operation	4
15	Tedlar PVF Film (White)	5 rolls
16	Kulite pressure sensors of type: XCS-062-10D, XCS-062-30A	30 No
17	ESP Pressure sensors (16/32 port-15PSID)	15 No
18	Silica Gel Sorbead-R (BASF)	15 Ton
19	Design Consultancy services for 2.5m x 2.5m Continuous Wind Tunnel and 1.75m x 1.75m Blowdown Wind Tunnel	1 No
20	Part Number Primary air filter AAP0540009-00089	4 Nos
21	Secondary air filter AAP0540009-00090	4Nos

22	Vibration probe AAP1407030-00100	4 Nos
23	spliteline gasket kit AAA3797125-00008	2 Nos
24	main oil pump AAP1401428-00633	1 No
25	Auxiliary pump assembly AAP1401428-00114	1 no
26	Auxiliary pump assembly AAP1401428-00013	1 no
27	Discharge below AAP0540139-01037	1 No
28	lubricating oil hose pipe AAP3794653-00173	2 no
29	lubricating oil hose pipe AAP3794653-00174	2 no
30	cylinder for stepper motor AAP1408596-00500	1 no
31	RTD.W/WELL (1/2 NPT CONNECTION) AAP3403629-00255	4 no
32	MOTOR.ELEC. ACTUATOR AAP1408596-00500	1 no

33	VALVE.BYPASS AAP0540008- 00837	1 no
34	REGULATOR.TEMPERATURE AAP1401581-01628	1 no
35	New procurements - Software Licenses	1 no
36	High End Workstations	15 no
37	Desktop PC's	10 no
38	External Portable 10TB Hard disks	15 no
39	UPS Maintenance	1 no
40	AMC - Xerox Machine	1 no
41	Toner Cartridges	24 no
42	Software Licenses maintenance	3 no
43	Color laser printer	1 no
44	Black laser printer	1 no

CSIR NAL Procurement Tentative List 2023 -2024

	Description of Line Item	Qty (if applicable)
45	IAFCC critical components	01 set
46	Cockpit switches	01 set
47	A0 size color printer - 1No A4 printer - 2Nos	3
48	Eval Boards for Synchro, LVDT, Current Drive	6
49	Crimping Tools & Ground Rig Tool Boxes	1 + 2 Set
50	Aircraft tool set	1 set
51	Miniature cockpit display - BMS	3
52	EDMU Rig Design Upgradation	1
53	CA71 Calibrator_Yokogowa	1
54	19inch Rack mountable Oscilloscope for Telemetry	1
55	Omega dry thermal chamber for calibration (Omega CL1000 Oven)	1
56	Power supply (20A)	2
57	RAM and SSD upgrade to old computers	6 set
58	Paperless Graphics Recorder (Data logger) (Sundar)	2 No
59	Clamp-ON meter (different ranges)	1
60	Rheostat _1KW	1
61	Embedded Wizard Studio	1
62	Visual Studio 2022	2 Licenses

S.No	Description	Quantity
Chemicals		
63	LR grade Acrylonitrile	5000 kg
64	Solvent DMAc (Dimethyl acetamide)	8000 kg
65	Solvent DMSO (Dimethyl sulphoxide)	2000 kg
66	Light Diesel Oil	15 kilolitres
Safety items		
67	Safety gloves for handling chemicals (nitrile rubber)	100 pairs
68	Working gloves with dotted grips	100 no's
69	Safety masks with canisters for organic vapour	50 sets
70	Heat resistant gloves (kevlar)	20 pairs
71	Welding gloves	5 pairs
72	Venus face mask with breather	10 no's
73	Safety goggles	100 no's
Boiler spares		
74	Pressure safety valves 12.5 kg/cm ² , Cast steel, 2 inches	2 no's
75	High pressure gasket sheet	1 no'
76	High temperature gasket sheet for boiler	1 no'
77	Boiler tube cleaning brush - 45 mm	10 no's
78	Boiler safety valve	2 no's
79	Boiler gauge glass	1 no'
80	Boiler blow down valve	1 no'
Demineralized water plant		
81	Cation resin T42 H	300 Litres
82	Anion resin A36 Gel	100 Litres
83	Anion resin for mixed bed A27	50 Litres
84	Filtering media for 400 dia DMF	1 no'
85	Soft water plant resin	450 liters
Others		
86	Lieca microscope 100X objective	1 no'
87	Lieca microscope Camera filter	1 no'
88	20W40 spray cans 10Nos	10 Nos
Procurement description (HCP0025)		
89	Aircraft Composite propellers	
90	Design, Development and supply of IPS actuator	
91	Design, Development and supply P seals & door seals for aircraft nacelle	
92	Aircraft Engine drain hoses, OC hoses, breather	
93	Aircraft Fuel blow back valves (SOV, filter, NRV)	
94	SOV and NRV for Aircraft ACOC ice protection	
95	supply of Non return Valve p/n SM3335-3 & Pressure sensor p/n 4499-002	
96	development & supply Engine Special tools & GHE/GSE	
97	Design, Development and supply of Alternate ACOC	

98	Existing Engines O/H & HS I	
99	Development and supply of Gas springs, latches, stay rods	
100	Special coatings & tests (intumescent, TBC)	
101	supply of Permaswage fittings	
102	aircraft Engine sensors	
103	Metal Wing tank for Fuel system test rig	
104	Design, Development and supply of triple cables aircraft engine control system	
105	Supply of Flap Control System	
106	Design, Development and Supply of Nose Wheel	
107	Bench Tests for Flaps & Elevator Disconnect Mechanisms etc	
108	Development and Supply of Life Support System	
109	Switches, sensors for LG, Hyd system (only major ones considered)	
110	ECS Ground Cooling Trolley	
111	Oxygen Charging Trolley for aircraft	
112	Data Aquisition system for test rig	
113	Development and qualification of Aircraft Seats (Passenger)	
114	Development and qualification of Aircraft Seats Aircraft Seats (Pilot and co-pilot)	
115	development and supply of Aircraft quality Moulds and Tools for part fabrication	
116	Aircraft stall warning system	
117	Aircraft relays, junctions modules, cables	
118	portable aircraft battery	
119	Indigenous Development of LED Luminaries for Civil aircraft	
120	Design, Development and Supply of 4 inch Non-Return Valve (NRV) for ECS for SARAS MkII	
121	Supply Airworthy Stall Warning and Protection System Equipment & certification documents	
122	Supply Airworthy Lithium battery system and certification documents	
123	Detail Design and Engineering of Nacelle with Engine Mount Structure for SARAS Mk-II Aircraft	
124	SUPPLY OF Airworthy GROUND COOLING FAN and certification documentation	
125	SUPPLY OF Airworthy Recirculation fan and certification documentation	
126	Design, Development and supply of Pneumatic Deicing System for Saras Mk II Aircraft	
127	Design, Development and supply of Control Yoke Assembly	
128	Engineering services & technical Support for Development of Crashworthiness Design for SARAS MK2 Aircraft	
129	Supply of Certified Hydraulic Power Pack for SARAS MK II	
130	Fabrication of Infused Mould (CFRP) Top and Bottom LH & RH for Cocured Aft Box of SARAS Mk-II Aileron	
131	Supply of Bleed Air Leak Detection System (BALD) for SARAS MkII Aircraft	
132	Fabrication of CFRP Moulds (Top & Bottom) for Elevator Co-cured Aft Box (By Infusion Process) of SARAS Mk II	
133	Fabrication of CFRP Moulds (LH & RH) for Rudder IS Box (By Infusion Process) of SARAS Mk II	
134	Fabrication of CFRP Moulds (LH & RH) for Rudder AFT Box TRIM Tab Tool (By Infusion Process) of SARAS Mk II	
135	Supply of Stall Warning and Protection System Equipment	

136	Rover unit for DGPS and its accessories	
137	Aircraft grade angle of attack vane sensors including documentation	
138	Fabrication of Mould for Horizontal Tail Inter Spar Box of SARAS Mk II	
139	Supply of Smoke Detector for Saras Mk II Aircraft	
140	Three-Window Visual Projection System for Iron Bird	
141	Aircraft Engine Fire Detection System	
142	Metal Tools for IB & OB Bottom Wing Skin of SARAS Mk II Aircraft	
143	Repair and upgrade of existing left-hand pushers to MTV-27-1-N-C-F-R(P)/CFR260-65a with spinner P-1059 tractor Props	
144	Supply of Certified Nose Wheel Steering LRUS for Saras MKII program	
145	Supply of Dual Ram Actuator for Secondary Flight Control System for Saras Mk II Aircraft	
146	Aircraft Hydraulic LRUs such as Parking Brake Valve, Brake Accumulator, Parking Brake Cable & Lever, Emergency Landing Gear Cable & Lever and Sampling valve	
147	Supply of airworthy metallic raw materials (steel, aluminium alloy) in the form of rods, plates, billets, tubes) for fabricating aircraft parts	
148	Supply of airworthy composite materials in the form of fabric, fibres, resins for fabricating aircraft parts	
149	Supply of airworthy fasteners of various types for assembling aircraft parts	
150	Supply of airworthy Paint, thinner, hardener, sealant, adhesive, grease, oils of various types for use towards aircraft equipment and test rigs	

The publication of this list shall not be construed as initiation of a procurement process and cast any obligation.

Annual Procurement Plan for Advanced Composites Division

Table - 1

List of Raw materials with specification for Composite Parts and Tools Fabrication

Sl. No	Materials description	Quantity
1	Carbon UD Prepreg Hexply 914/34%/UD 160/AS4-12K/300 mm	2500 SQM
2	Carbon BD Prepreg Hexply 914/40%/285H5/AS4C- 3K/1170 mm (with various width, i.e. 1170 /1200 /1500 mm)	750 SQM
3	Film Adhesive HexBond 319A – 400 GSM	120 SQM
4	Film Adhesive HexBond 319A – 240 GSM	120 SQM
5	Copper Mesh Hexply 914–Copper Mesh- 40 %	300 SQM
6	Glass BD Prepreg Hexply 914G-120--45 %	360 SQM
7	Glass BD Prepreg Hexply 914G-7781--37 %	360 SQM
8	Impregnated Peel Ply Hexply 914/45%/9842/1300 mm	300 SQM
9	IM7-Carbon UD Prepreg Hexply 8552/33%/134/IM7 (12K)/1200 mm	3000 SQM
10	IM7-Glass BD Prepreg Hexply 8552/37%/7781	750 SQM
11	IM7-Copper Mesh Hexply Epoxy Matrix/ 8552/40%/72/Cu	300 SQM
10	Aramid Fiber / Phenolic Hexagonal Core HexWeb HRH-10 Hex core	10 SHEETS
11	Aramid Fiber / Phenolic Hexagonal Core HexWeb HRH-10 Flex core	10 SHEETS
12	BMI-Carbon UD Prepreg CYCOM 5250-4 IM7-G-145/32	300 SQM
13	Tooling Prepreg LTM 217 – 100T LTM 217-T-3KHS-4X4T-283-1250 mm	100 SQM
14	Tooling Prepreg LTM 217 – 700T LTM 217-T-12KHS-2X2T-660-1250 mm	500 SQM
15	Expanded Copper Foil (ECF) 4 Cu (110)12-125FA (356 GSM)	100 SQM
16	Tooling Resin - RENLAM LY 5210 Tooling / Laminating Resin – HIGH HEAT RESISTANT EPOXY SYSTEM	500 Kgs
17	Tooling Hardener - ARADUR 2954 / REN HY 2954 Tooling / Laminating Hardener – HIGH HEAT RESISTANT EPOXY SYSTEM	300 Kgs
18	Tooling Gel coat Resin - REN GEL SW 5200 Tooling / laminating Gel coat Resin – HIGH HEAT RESISTANT EPOXY SYSTEM	30 Kgs
19	Structural Adhesive - Aerospace Adhesives Araldite 403 A/B - Two component epoxy paste adhesive (A/B)	12 Kits
20	Structural Assembly Sealant	
	PR 1422-A2	15 Kits
	PR 1422-B2	15 Kits
	PR 1782-A2	15 Kits
	PR 1782-B2	75 Kits
	PR 1782-C12	50 Kits
	PR 1764-B2	50 Kits
	Chobond-2465	15 Kits
	PR 1005L	15 Kits
PR-812 firewall sealant	05 Kits	

21	Seal Cap	
	PR1782B002AB006SCE Empty Seal cap	2500 No's
	PR1782B002AB025SCE Empty Seal cap	6250 No's
	PR1782B002AB012SCE Empty Seal cap	2000 No's

	PR1782B002CA601 NSE Empty Seal cap for Anchor Nut	2000 No's
	PR1782B002 Empty Seal cap (with various sizes)	5000 No's
22	Epoxy Filler Adhesive - Hysol EA934NA	10 Kits
23	Gore Tape	
	GSC-21-96399-C027 Sheet Thickness - 0.6 mm	05 Sheets
	GSC-21-97009-027 Rev A - Roll Width 30 mm and 100 feet Length	05 Rolls
	GSC-21-97157-027 Rev B – Roll Width 30 mm and 100 feet Length	05 Rolls
24	Uncured Non-Silicone Tooling Rubber - AIRPAD	200 SQM
25	Uncured Fibre Glass Reinforced Rubber - AIRPAD HTS 5553	200 SQM
26	Peel Ply - 60 BR ORANGE	1000 SQM
27	Peel Ply - PES 90 / 1650	1000 SQM
28	Araldite AV 138 and Hardener HV 998	10 Kits

Table - 2

List of Autoclave Consumables with specification for Composite Parts and Tools Fabrication

Sl. No	Materials description	Quantity
1	<p>Multi-Purpose General Sealant Tape with high tack. Base material : Synthetic Rubber Size : 1 Roll = 1/8 inch thick X 1/2 inch width X 25 feet Length or as per the manufacturer's standard roll size. 3 mm thick x 12 mm width x 7.5 meter Length Packing : 40 Rolls per Box Shelf Life : Minimum 10 months Maximum Use Pressure : 100 PSI Maximum use Temperature : 204 Deg C Colour : Yellow Note : Suitable for Autoclave Curing and removes easily from metal or composite tools. Product Code : AT 200Y or Equivalent</p>	1200 Rolls
2	<p>RELEASE FILM – POROUS (PERFORATED) High performance fluoropolymer release film Material Type : FEP (Fluoropolymer film) Thickness : 25 Microns Elongation at break : Minimum 300 % Tensile strength : Minimum 20 MPa Perforation details : Perforation style : P3 Roll size : 1.2 Meter Width X 183 Meter Length or as per the manufacturer's standard roll size. Max. Use Temp : 260 Deg Centigrade (260°C) Max. Use Pressure : 100 PSI / 7 Bar Colour : Red / Violet Shelf life : Unlimited when stored in original packaging at 22°C / Room Temperature. Suitable for High temperature Autoclave Curing and to be Compatible with most resin systems Product Code : A4000 – RP3 or Product Code : A5000 – RP3 Product Code : FIA5N25 or Equivalent</p>	1500 SQM

3	<p>RELEASE FILM – NON POROUS (PLAIN) High performance fluoropolymer release film Material Type : FEP (Fluoropolymer film) Thickness : 25 Microns Elongation at break : Minimum 300 % Tensile strength : Minimum 20 MPa Perforation details : Perforation style : No perforation - Plain Roll size : 1.2 Meter Width X 183 Meter Length or as per the manufacturer's standard roll size. Max. Use Temp : 260 Deg centigrade (260° C)</p>	1000 SQM
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	<p>Max. Use Pressure : 100 PSI / 7 Bar Colour : Red / Violet Shelf life : Unlimited when stored in original packaging at 22°C / Room Temperature. Suitable for High temperature Autoclave Curing and to be Compatible with most resin systems</p> <p>Product Code : A4000 r – or Product Code : A5000 – R Product Code : FIA5N25 or Equivalent</p>	
4	<p>One side Bondable Release film (Non porous) RELEASE FILM - Bondable One Side (BOS) – NON POROUS (PLAIN) High performance fluoropolymer release film Material Type : FEP (Fluoropolymer film) Thickness : 25 Microns Elongation at break : Minimum 300 % Tensile strength : Minimum 20 MPa Perforation details : Perforation style : No perforation - Plain Roll size : 1.2 Meter Width X 183 Meter Length or as per the manufacturer’s standard roll size. Max. Use Temp : 260 Deg centigrade (260° C) Max. Use Pressure : 100 PSI / 7 Bar Colour : Red / Violet Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Suitable for High temperature Autoclave Curing and to be Compatible with most resin systems</p> <p>Product Code : A4000 BOS – or Product Code : A5000 – ONE SIDE BONDABLE Product Code : FIA5N25 ONE SIDE BONDABLE or Equivalent</p>	300 SQM
5	<p>BAGGING FILM - Nylon Vacuum bagging film with elongation Material : Nylon / soft Nylon Vacuum bagging film Thickness : 50 Microns or 75 microns Elongation at break : Minimum 400 % Tensile strength : Minimum 48 MPa Roll size : 60 inch width x 1000 feet length or as per the manufacturer’s standard roll size. Max. Use Temperature: 212 Deg Centigrade (212° C) Max. Use Pressure : 100 PSI / 7 Bar Colour : Green / Pink Shelf life : Minimum 2 years / Unlimited when stored in original packaging at 22°C / Room Temperature Suitable for High temperature Autoclave Curing and to be Compatible with Epoxy resin systems</p> <p>Product Code : KM 1300 or Product Code : HK7400 Product Code : FIPA205-20/155 or Equivalent</p>	1500 SQM

6	<p>BREATHER Heavy Weight Non-woven polyester Breather / Bleeder Fibre Type : Polyester Weight : 339 GSM (+/- 5 GSM) Roll Size : 50 inch Width X 50 meters Length or as per the manufacturer's standard roll size. Max. Use Temperature: 204 Deg Centigrade (204° C) Max. Use Pressure : 100 PSI Colour : White Shelf life : Unlimited when stored in original packaging at 22°C / Room Temperature Suitable for High temperature Autoclave Curing.</p> <p>Product Code : Airweave N10 Product Code : Resin Bleeder 3000-10 or Equivalent</p>	1500 SQM
7	Tooltec / Toolkote / Pressure Sensitive Tape	

	<p>(0.005 inch / 125 microns thickness) Tooltec / Toolkote / Pressure Sensitive Tape Total Thickness (Film / Carrier + Adhesive) : 125 Microns (0.005 Inch) Reinforced PTFE coated fibreglass with silicone adhesive / Non Porous PTFE coated Glass fabric with silicon adhesive Semi permanent Tool Release Film and Tool surface reconditioning. Specification : Film / Carrier Thickness : 70 Microns to 80 Microns (0.003 Inch) Adhesive Thickness : 45 Microns to 55 Microns (0.002 Inch) Total Thickness (Film / Carrier + Adhesive) : 125 Microns (0.005 Inch) Carrier type : PTFE/ Glass Adhesive type : Silicone Roll Size : 36 inch width X 18 yards Length or as per the manufacturer's standard roll size.</p> <p>Max use Temperature : 260 Deg C (260° C) Max use Pressure : 100 PSI / 7 bar Colour : Brown Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Suitable for High Temperature Autoclave Curing.</p> <p>Product Code : ToolTec A005 or Product Code : Toolkote 03S or Equivalent</p>	500 SQM
8	<p>Tooltec / Toolkote / Pressure Sensitive Tape (0.007 inch / 175 microns thickness) Tooltec / Toolkote / Pressure Sensitive Tape Total Thickness (Film / Carrier + Adhesive) : 175 Microns (0.005 Inch) Reinforced PTFE coated fibreglass with silicone adhesive / Non Porous PTFE coated Glass fabric with silicon adhesive Semi permanent Tool Release Film and Tool surface reconditioning. Specification : Film / Carrier Thickness : 120 Microns to 130 Microns (0.005 Inch) Adhesive Thickness : 45 Microns to 55 Microns (0.002 Inch) Total Thickness (Film / Carrier + Adhesive) : 175 Microns (0.007 Inch) Carrier type : PTFE/ Glass Adhesive type : Silicone Roll Size : 36 inch width X 18 yards Length or as per the manufacturer's standard roll size.</p> <p>Max use Temperature : 260 Deg C (260° C) Max use Pressure : 100 PSI / 7 bar Colour : Brown Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Suitable for High Temperature Autoclave Curing.</p> <p>Product Code : Tooltec A007 or Equivalent</p>	100 SQM

9	<p>Tooltec / Toolkote / Pressure Sensitive Tape (0.012 inch / 300 microns thickness)</p> <p>Tooltec / Toolkote / Pressure Sensitive Tape</p> <p>Total Thickness (Film / Carrier + Adhesive) : 300 Microns (0.012 Inch)</p> <p>Reinforced PTFE coated fibreglass with silicone adhesive / Non Porous PTFE coated Glass fabric with silicon adhesive</p> <p>Semi permanent Tool Release Film and Tool surface reconditioning.</p> <p>Specification :</p> <p>Film / Carrier Thickness : 245 Microns to 255 Microns (0.010 Inch)</p> <p>Adhesive Thickness : 45 Microns to 55 Microns (0.002 Inch)</p> <p>Total Thickness (Film / Carrier + Adhesive) : 300 Microns (0.012 Inch)</p> <p>Carrier type : PTFE/ Glass</p> <p>Adhesive type : Silicone</p> <p>Roll Size : 36 inch width X 18 yards Length or as per the manufacturer's standard roll size.</p> <p>Max use Temperature : 260 Deg C (260° C)</p> <p>Max use Pressure : 100 PSI / 7 bar</p>	300 SQM
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	<p>Colour : Brown Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Suitable for High Temperature Autoclave Curing.</p> <p>Product Code : Tooltec A012 or Product Code : Toolkote 010S or Equivalent</p>	
10	<p>Release Solution Release Solution - Water based PTFE release agent (water based PTFE release agent that contains no silicones or silanes, no CFC's and no VOC's) Maximum use temperature : 200 Deg C (200°C) Max use Pressure : 100 PSI / 7 bar Solvent : Water Flammability : No Package in container : 1 Gallon (3.8 liters) Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Suitable for High Temperature Autoclave Curing. To be compatible for composite and metal tools and provides release from epoxies, phenolics, BMI's and urethane resin systems. To be capable of multiple release cycles with most resin systems.</p> <p>Product Code: RELEASE ALL - SAFELEASE 30 or Product Code: HENKEL FREKOTE 770 NC or Product Code: FREKOTE 700 NC or Equivalent</p>	40 LITERS
11	<p>Flash Breaker Tape - All-purpose pressure sensitive tape, High temperature/ high tensile strength polyester films coated with a pressure sensitive silicone adhesive Maximum use temperature : 204 Deg C (204°C) Maximum use Pressure : 100 PSI / 7 bar Carrier type : Polyester Adhesive type : Silicone Colour : Blue / Orange Total thickness : 55 microns (0,0022 inch) Film thickness 25 microns (0,001 inch) Adhesive thickness 30 microns (0,0012 inch) Elongation at break : 100 % Roll Size : 01 inch width X 72 yards Length or as per the manufacturer's standard roll size. Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Suitable for High Temperature Autoclave Curing and tapes remove easily after cure.</p> <p>Product Code: Flash tape or Equivalent</p>	50 ROLLS

12	<p>Repair Paste Adhesive High temperature quick setting filler paste with Hardener Material type : Polyester Colour Black : White (A:B) Mix ratio by weight : 100 : 1 (A : B) Pot life : 7-15 minutes (100 g at 22 °C) Mix ratio by weight : 100 : 2 (A : B) Pot life : 2 5 minutes (100 g at 22 °C) Maximum use temperature : 232 Deg c (232 °C) Maximum use Pressure : 100 PSI / 7 bar Shelf life : Minimum 12 months when stored in original packaging at 22°C / Room Temperature Package : 1.62 kg (Part A) & 0.028 kg (Part B) or as per the manufacturer's standard pack.</p> <p>Product Code : Airfill 2 A/B / or Product Code : APF 7 A/B or Equivalent</p>	12 KITS
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Table - 3

List of Consumables for Mission mode project (HCP-0036)

Sl. No	Materials description	Quantity
1	Distributed Fiber optic sensor (Draw tower grating DTG) for DFOS system	100 Sets

SI.No	Material Description	Quantity
1	Carbon UD Standard Modulus (T 700) Prepreg Cetex® TC1225 LM PAEK., T700GC/12K/91N/FAW145/ 34%/	250 Sq.m
2	Carbon UD Standard Modulus (T 700) Prepreg Tape Cetex® TC1225 LM PAEK., T700GC/12K/91N/FAW145/ 34%RC, 0.25"	200 Kgs
3	Carbon UD Standard Modulus (T 700) Prepreg Tape Cetex® TC1225 LM PAEK., T700GC/12K/91N/FAW145/ 34%/RC, 0.5"	200 Kgs

Procurement plan

Sl. no.	Description	Quantity
1	Kulite Pressure Transducer (tubular and flat type): XCS-062-25A, LQ-125-25A, XCS-062-10D, LQ-125-10D	20 no's

List of Items/ procured in the NTTM project

Sl.No	Material Description	Quantity
1	"Heat treatment line for the continuous processing of fibers"	01

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