AEROSPACE ENGINEERING DEPARTMENT,

COMPOSITES TESTING FACILITY,

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REVISED CHARGES:

TEST METHODS AND TESTING CHARGES UNDER COMPOSITES TEST FACILITY:

TESTS OF REINFORCEMENT FIBERS:

SL. NO	NAMES OF TEST	ISO Stds	ASTM Stds	BS Stds	IS and others standards	No of specimens to be tested	Specimen preparation and testing charges per specimen	
							Other college Students	Industries
1.	Specific gravity of fibre/yarn/rovings	3801 1889	D3317 D1505	-	DIN53854 53830 10119	5	450	1900
2.	Linear density (tex,end,denier) of roving/strands/yarns	18889-75	D578-89 D861-89	3691-69	11320-85	10	450	1900
3.	Moisture content of textile glass/rovings/ filaments/yarns	3344-77	D2654-89	3691-69 3496-73	11320-85 11551-86	3	450	1900

4.	Mass per unit area of chopped strand mat/woven fabrics	3374-80	D579-89	3496-73	11551-86	3	450	1900
5.	fabrics count (number of yarns/unit length) in warp and weft direction of woven fabrics/woven roving mats	4603-78 7211/2/6	D4029-89 D3775-85 D1910	3749-74	DIN53853	4	450	1900
6.	Thickness of woven roving	4603-78 3616-77	D1777-75 D579-89	3496-73	11551-86	3	450	1900
7.	Wet out time of glass fiber ,CSM	3374-80	D579-89	3496-73	11551-86	2	450	1900
8.	Tensile properties of rovings/strands/yarns	3341-77	D2343-85	3496-73	DIN53834T1	5	450	1900
9.	Tensile Strength/modulus of single filament		D3379-89			5	450	1900
10.	Breaking strength of CSM mat	-	-	3496-63		5	450	1900
11.	Cross Breaking of Chopped strand mat Laminate		D790-86	3496-73 3749-74	-	5	450	1900
12.	Flexural (Cross Breaking) Strength of Composite in the form of Rods made from textile Glass Roving	3597-77	-	3749-74	-	10	450	1900

TESTING FACILITY FOR THERMOSETTING RESINS/RESIN CASTINGS:

13.	Specific gravity of Liquid resin (Density)	1675-75	D1475-85	3532Apx	DIN51757	1	450	1900
14.	(Brook Field –RVT Model) Viscosity of Liquid resin	2555-74 3214	D2393-86	3900-76	6764-72	1	450	1900
15.	Viscosity of Liquid resin using flow cup	-	-	3900-76	-	1	450	1900
16.	Total volume shrinkage of polyester and epoxy casting resins	3521-76 2577	D2566-86	2782 Part-6 644A	6746-72 DIN16945 DIN16945	1	450	1900
17.	Linear shrinkage of Thermosetting plastics at elevated temp.	-	D2566-86	-	-	1	450	1900
18.	Shrinkage of moulded and laminated Thermosetting plastics at elevated temp	3521	D1299-85	-	6746-72	1	450	1900
19.	Tensile strength , Tensile modulus, Elongation @ Break of cast resin/ Plastics	R527-66	D638-89	2782 Method 320C	DIN53455	5	450	1900
20.	Compressive strength/ Modulus casting resin/ Rigid plastics	604-73	D696-89	2782 Method 303B	Din53454	3	450	1900
21.	Flexural strength/Modulus of unreinforced plastics	178-75	D790-86	2782 Method 304A	DIN53452	5	450	1900

22.	Charpy impact resistance of plastics	179-82	D256-88	2782 Method 305B		5	450	1900
23.	Izod impact resistance of plastics	180-82	D256-88	2782 Method 305A		5	450	1900
24.	Tensile impact energy to break plastics	-	D1822-84	2782 Method 305c	-	5	450	1900
25.	Indentation hardness of rigid plastics by means of Barcol impressor GYSJ.9341	2039	D2583-87	2782 Method 1001	-	-	450	1900

TEST FACILITIES FOR COMPOSITE MATERIAL:

26.	Water absorption of plastics at room temperature for 24 hours/7days/28days	R62-80 method 1	D570-88	2782 method 502F4	DIN53472 53475	3	450	1900
27.	Specific gravity (relative density) of plastics.	R1183-70	D792-86	-	DIN53479	2	450	1900
28.	Fibre content of resin matrix composites by matrix digestion	1172-75	-	2782 method 1002-77	DIN5339	4	450	1900
29.	Loss on ignition of Glass reinforced plastics	1172-75	D2584-85	2782 method 1002-77	-	3	450	1900
30.	Flammability, extent and time of burning of self-supporting reinforced plastics in horizontal position.	1210-82	D635-88 D229-77 D757-77	2782 method 508A	DIN53454	3	450	1900

31.	Drop mass impact	-	-	-	-	4	450	1900
32.	High velocity impact gas gun method	-	-	-	-	4	450	1900
33.	Fatigue testing	-	-	-	-	5	450	1900
34.	Laminate preparation by compression moulding method	-	-	-	-	-	1000	1900
35.	Filament winding tube preparation	-	-	-	-	-	1250	1900
36.	Vacuum bag moulding	-	-	-	-	-	1000	1900
37.	Tensile properties of plastics /Reinforced plastics	3268-78	D638-89 D3039	2782 Method 1003	DIN53455 53451	5	450	1900
38.	Tensile properties of glass fibre strands, yarns, Rovings and reinforced plastics	3268-78	D2343-85 D695-89	2782 Method 1003	-	5	450	1900
39.	Poission's ratio	3268-78	D638-89 D3039	2782 Method 1003	DIN53455 53451	5	450	1900
40.	Compressive properties of unidirectional cross-ply fibre composites	-	D3410-B7	2782 Method 303B	DIN53455 53451	5	450	1900
41.	Compressive properties of rigid plastics	604-73	D695-89	2782 Method 303B	DIN53455	5	450	1900
42.	Flexural properties of unreinforced/ reinforced plastics	178-85	D790-86	2782 Method 303B/D	DIN5352	5	450	1900

43.	Inter laminar (Lap) Shear strength of composite	4585	D2344 D2345	4994-87 App-B10	-	5	450	1900
44.	Inter laminar Shear strength of composite (Short beam methods)			D ASTM 2344		5	450	1900
45.	Inplane shear, stress-strain response of unidirectional reinforced plastics (Picture frame methods)	-	D3518-82	2782 Method 306A/E	-	5	450	1900
46.	Charpy impact/ Izod impact resistance of plastics tensile impact energy to break plastics	180-82 179-75	D256-88 D1822-84	Method 306B	DIN53453	5	450	1900
47.	Indentation hardness of rigid / reinforced plastics by means of Barcol impressor /Durometer	2039	D2583-87 D1706 D2240	-	DIN53505	-	450	1900
48.	Bearing strength of plastics	-	D953-87		-	5	450	1900
49.	Accelerated- Outdoor weathering of plastics using natural sun light	-	D4364-84	-	53387	**To be mutually agreed between clients**		
50.	Bond strength of joints/ Sandwich composites (Peel of strength)	-	D1781-86 D2918 D2919 D3167	4994-87 App- B11/B12	-	5	450	1900
51.	Comparative tracking index of electrical insulating materials	-	D3638-85 282	11221	IEC243 IS2824 DIN53480	5	450	1900

TEST FACILITY FOR COMPOSITE PRODUCTS:

52.	Longitudinal tensile properties of reinforced thermosetting resin pipe and tube	-	D2105-85	-	-	-	650	2500
53.	Axial compressive strength of filament wound tubes	-	-	-	-	-	650	2500
54.	Testing of roofing sheets/panel (load deflection)	-	-	4154	IS12866-89	1	-	12500
55.	Bolt shear test, water absorption, glass content	-	-	4154	IS12866-89	5	650	1900
56.	loading test on panels up to 2m*2m plan size	-	-	-	-		650	6250
57.	Testing of FRP doors (performance test)	-	-	-	IS11246 IS4020	1	-	18750
58.	Tensile strength / Elongation at break of Geo grid	-	D6637	-	-	5	450	1900
59.	Melting point	-	D276	-	-	1	1250	3750
60.	Mass per unit area	-	D5261-92	-	-	3	450	1900

TEST FACILTIES FPR FIBRE ROVINGS:

61.	Roving tex	-	-	-	11320-97	3	450	1900
62.	Moisture content	3344-77	D2584-85 D2654-89	2782 Method 1002	11320-97	3	450	1900
63.	Loss in ignition	1172-75	D2584-85	2782 Method 1002	11320-97	3	450	1900
64.	Glass content	-	-	-	11320-97	2	450	1900
65.	Tensile breaking load	-	-	-	11320-97	5	450	1900
66.	Cross breaking strength	-	D2343-85	2782 Method 1003	3268-78	5	450	1900
67.	Tensile properties	3341-77	D1557-03 D2343-85	3496-73	11551-86	5	450	1900

TEST FACILTIES FOR STEEL /METALS:

68.	Tensile strength / modulus	-	-	-	2062-99	5	450	1900
69.	Bending strength	-	-	-	1599-85	5	450	1900

MATERIAL CHARACTERISATION FACILITIES:

S. NO	Name of the test	Equipment	No. of specimens to be tested	Testing charges per specimen	
				other colleges students	Industries
70.	Determination of glass transition temperature of thermosets	DSC	-	1250	3750
71.	Mass change, phase transition temperature	TGA	-	1250	3750
72.	Determinations of degree of cure	DMA	-	1250	3750
73.	Estimations of crystallinity	DMA	-	1250	3750
74.	Determinations of degree of compatibility of copolymers	DMA	-	1250	3750
75.	Coefficient of Thermal Expansion	Dilatometer	-	650	1250
76.	Thermal Conductivity	LFA 467 Hyperflash	-	1250	3750
77.	Thermal Diffusivity	LFA 467 Hyperflash	-	1250	3750
78.	Specific heat capacity	LFA 467 Hyperflash	-	1250	3750