

SENARAI HARGA PERALATAN DI INSTITUT PERHUTANAN TROPIKA DAN PRODUK HUTAN (INTROP)

BIL	PERALATAN / PERKHIDMATAN	UNIT	RM		
			Kategori A	Kategori B	Kategori C
1	Muffale Furnace	Per Sample	90.00 - 99.00	120.00 - 132.00	150.00 - 165.00
2	BRABENDER Internal Mixer	Per Sample	50.00 - 55.00	60.00 - 66.00	82.00 - 90.00
3	Thermoplastic Compression Moulding (40 tonne)	Per Sample	36.00 - 40.00	48.00 - 53.00	60.00 - 66.00
4	Hot Press (100 tonne)	Per Sample	42.00 - 46.00	56.00 - 62.00	70.00 - 77.00
5	Injection Moulding	Per Hour	76.00 - 84.00	100.00 - 110.00	126.00 - 139.00
6	Universal Testing Machine (UTM) (30 kN) WITH MS ISO/IEC 17025	Per Sample	+RM50 for test report		
8	Hardness Tester	Per Sample	30.00 - 33.00	35.00 - 39.00	50.00 - 55.00
9	TG-IR (Evolved Gas)	Per Sample	200.00 - 220.00	230.00 - 253.00	330.00 - 363.00
10	MDF Glue Mixer	Per Sample	12.00 - 13.00	16.00 - 18.00	20.00 - 22.00
11	Wood Chipper	Per Hour	25.00 - 28.00	35.00 - 39.00	45.00 - 50.00
12	Ring Knife Flaker	Per Hour	36.00 - 40.00	48.00 - 53.00	60.00 - 66.00
13	Vibratory Fibre Screener	Per Hour	18.00 - 20.00	24.00 - 26.00	30.00 - 33.00
14	OSB/Particleboard Mixer	Per Hour	22.00 - 24.00	30.00 - 33.00	36.00 - 40.00
15	Industrial Oven	Per Hour	25.00 - 28.00	32.00 - 35.00	40.00 - 44.00
16	Digital Image Analyzer	Per Hour	40.00 - 44.00	45.00 - 50.00	65.00 - 72.00
17	Freezer Mill / Cryocrusher (excluding liquid nitrogen)	Per Sample	35.00 - 39.00	40.00 - 44.00	60.00 - 66.00
18	Sonifier / Ultrasonic Processor	Per Hour	30.00 - 33.00	40.00 - 44.00	55.00 - 61.00
19	Vacuum Oven	Per Day	30.00 - 33.00	35.00 - 39.00	50.00 - 55.00
20	Viscometer	Per Sample	42.00 - 46.00	56.00 - 62.00	70.00 - 77.00
21	Twin Digester (big)	Per Run	210.00 - 231.00	280.00 - 308.00	350.00 - 385.00
22	Paper Making (Package I) including : - Hydropulper - Screener (Somerville) - Disintegrator - Pulp Equalizer - Handsheet Former - Speed Dryer	Per Paper Set	120.00 - 132.00	160.00 - 320.00	200.00 - 220.00
23	Paper Making (Package II) including : - Disintegrator - Pulp Equalizer - Handsheet Former - Speed Dryer	Per Paper Set	80.00-88.00	115.00-127.00	138.00-152.00
24	Paper Tensile Test Machine	Per Paper Set	36.00 - 40.00	48.00 - 53.00	60.00 - 66.00
25	Refining Mechanical Pulper (RMP)	Per Hour	40.00 - 44.00	50.00 - 55.00	64.00 - 70.00
26	Bleaching (1 stage)	Per stage	48.00 - 53.00	64.00 - 70.00	80.00 - 88.00
27	Wood content analysis				
	a) Extractive (ethanol-toluene)	Per sample	72.00 - 80.00	96.00 - 192.00	120.00 - 132.00
	b) holocellulose	Per sample	120.00 - 132.00	160.00 - 176.00	200.00 - 220.00
	c) α-cellulose	Per sample	156.00 - 172.00	208.00 - 229.00	260.00 - 286.00
	d) lignin	Per sample	150.00 - 165.00	200.00 - 220.00	250.00 - 275.00
28	Beater (PFI Mill)	Per sample	30.00 - 33.00	40.00 - 44.00	50.00 - 55.00
29	Beater (PFI Mill)	Per Run	45.00 - 50.00	60.00 - 66.00	76.00 - 84.00
29	Canadian Standard Freeness (CSF)	Per sample	8.00 - 9.00	11.00 - 12.00	14.00 - 15.00
30	Automatic Film Coater	Per run	7.00 - 8.00	10.00 - 11.00	12.00 - 13.00
31	PORTABLE PRECISE SOIL MOISTURE MEASUREMENT TRIME-PICO 64/32	Per Trip	153.00-169.00	184.00-203.00	225.00-248.00
32	Pulp Viscometer	Per sample	72.00 - 80.00	96.00 - 106.00	120.00 - 132.00
33	Kappa No	Per Sample	60.00 - 66.00	80.00 - 88.00	100.00 - 110.00
34	Universal Testing Machine (UTM) (30 kN)	Per Sample	60.00 - 66.00	70.00 - 77.00	100.00 - 110.00
35	Thermal Mechanical Analyzer (TMA)	Per Sample	80.00 - 88.00	95.00 - 105.00	135.00 - 149.00
36	Impact Tester	Per Sample	55.00 - 61.00	65.00 - 72.00	90.00 - 99.00
37	Twin Digester	Per Run	132.00 - 145.00	176.00 - 194.00	220.00 - 242.00
38	Rotary Digester	Per Run	150.00 - 165.00	200.00 - 220.00	250.00 - 275.00
39	Twin Screw Extruder*	Per Hour	62.00 - 68.00	85.00 - 94.00	105.00 - 116.00
40	Differential Scanning Calorimeter (DSC)	Per Sample	100.00 - 110.00	121.00 - 170.00	170.00 - 230.00
41	Dynamic Mechanical Analyzer (DMA) (excluding liquid nitrogen)	Per Sample	150.00 - 165.00	180.00 - 198.00	190.00 - 200.00
42	FTIR	Per Sample	67.00 - 74.00	93.00 - 102.00	120.00 - 130.00
43	Gas Chromatography-Mass Spectrometer (GS-MS)	Per Sample	240.00 - 264.00	270.00 - 300.00	300.00 - 330.00
44	SEM	Per Sample	95.00-105.00	150.00-165.00	195.00-215
45	SEM + EDX	Per sampel	150.00-165.00	200.00 - 220.00	280.00 - 308.00
46	GEL DOCUMENTATION SYSTEM (with print out)	Per read	12.00-13.00	15.00-17.00	20.00-22.00
47	AUTOCLAVE	Per run	15.00 - 17.00	20.00 - 22.00	30.00 - 33.00
48	PCR	Per hour	11.00 - 12.00	12.00 - 13.00	13.00 - 15.00
49	Thermal Gravimetric Analyzer (TGA)	Per Sample	150.00-165.00	180.00 - 198.00	200.00 - 230.00
50	High Pressure Nano Homogenizer	Per Sample	110.00 - 121.00	121.00 - 133.00	133.00 - 146.00