

COST MODEL: MENTAL HEALTH FACILITIES

	Element cost (£)	Cost/m ² GIFA	% total cost		Element cost (£)	Cost/m ² GIFA	% total cost
SUBSTRUCTURE	1,012,490	238	6.55				
Allowance for site clearance	40,000			Double-leaf timber doorset with anti-ligature ironmongery to other areas 15nr	28,500		
Excavate and disposal to formation level	60,000			Airlock double doors between wards 3nr	22,500		
Plain strip foundations to ground-floor external walls, including concrete, brickwork, dpc etc (609m)	182,700			Airlock double door to main entrance 1nr	10,000		
Plain strip foundations to ground-floor internal walls, including concrete, brickwork, dpc etc (554m)	149,490			Access timber doors with anti-ligature ironmongery 22nr	22,000		
Ground-floor slab; assumed 225mm-deep beam and block floor; structural screed; damp-proof membrane; insulation (3,802m ²)	570,300						
Concrete lift pit and walls; excavate and disposal	10,000						
SUPERSTRUCTURE				FINISHES & FITTINGS			
Frame	489,670	115	3.17	Wall finishes	337,942	79	2.19
Allowance for steel frame	489,670			2 coats emulsion to inner leaf of external wall (3,434m ²)	27,474		
Upper floors	68,400	16	0.44	2 coats emulsion to internal partitions (10,896m ²)	87,168		
250mm-thick reinforced concrete suspended slab (456m ²)	68,400			Extra over for PVC Altro to en-suites/WCs/shower areas (1,500m ²)	180,000		
Roof	752,340	177	4.86	Sheet-cushioned vinyl to seclusion room and de-escalation room (105m ²)	10,500		
Single-ply membrane roof, insulation, vapour barrier etc (3,802m ²)	570,300			Window boards; 25mm primed softwood; 1 coat underseal and 2 coats gloss (256m ²)	12,800		
Rainwater goods including anti-scale downpipes and connection to drains (3,802m ²)	76,040			Allowance for enhanced finishes	20,000		
Rooflights; 2.00m x 1.00m 24nr	36,000			Floor finishes	338,195	79	2.19
Mansafe system	20,000			Self-levelling screed and dpm (4,258m ²)	85,160		
Allowance for screening to rooftop plant	50,000			Extra over for screed to falls in showers 50nr	7,500		
Stairs	20,000	5	0.13	Vinyl sheet flooring with 100mm-high coved skirting (4,258m ²)	234,190		
Precast concrete staircase incl balustrades, handrails and half-landings 1nr	20,000			Extra over for non-slip vinyl flooring to en-suites and bathroom (177m ²)	1,770		
External walls	910,076	214	5.88	Extra over for resin flooring to seclusion room and de-escalation room (35m ²)	2,800		
Traditional external wall construction of medium-quality facing bricks, cavity, inner blockwork skin and insulation (3,434m ²)	858,563			Extra over barrier matting (15m ²)	3,375		
Extra over for timber cladding on brickwork (343m ²)	51,514			Extra over for timber-sprung floor to fitness suite (40m ²)	3,400		
External doors and windows	866,706	204	5.60	Ceiling finishes	266,250	63	1.72
Automatic main entrance aluminium double door incl all ironmongery 1nr	15,000			Taped and jointed plasterboard suspended ceiling with ply backing (4,258m ²)	191,610		
Automatic FM entrance aluminium double door incl all ironmongery 1nr	10,000			Extra over for moisture resistant board to wet areas (177m ²)	1,770		
Automatic rear entrance aluminium double door incl all ironmongery 1nr	10,000			Decoration to the above (4,258m ²)	42,580		
External aluminium single door incl all ironmongery 4nr	10,000			Extra over for tamper-proof access panels to services 30nr	9,000		
External aluminium double door incl all ironmongery 14nr	49,000			Allowance for bulkheads	21,290		
Security windows including all ironmongery (1,030m ²)	772,706			Fixtures and fittings	391,736	92	2.53
Internal walls	648,660	152	4.19	FF&E; Group 1; supply and fix	361,930		
Plasterboard partitions with ply backing; 4m high (5,448m ²)	490,320			FF&E; Group 2; fix only	29,806		
IPS panelling to en-suites and WCs 63nr	63,000						
Internal security-glazed screens (272m ²)	95,340			SERVICES			
Internal doors	455,400	107	2.94	Sanitaryware	244,090	57	1.58
Single-leaf timber doorset with anti-ligature ironmongery and vistamatic to bedrooms 49nr	117,600			Clinical anti-ligature wash hand basins 55nr	41,250		
Single-leaf timber doorset with anti-ligature ironmongery to en-suites 49nr	68,600			Clinical anti-ligature WCs 67nr	40,200		
Single-leaf timber doorset with anti-ligature ironmongery to other areas 133nr	186,200			Clinical anti-ligature showers 48nr	21,600		
				Clinical anti-ligature assisted WCs 14nr	14,000		
				Clinical anti-ligature assisted wash hand basins 14nr	10,500		
				Clinical anti-ligature assisted showers 10nr	4,500		
				Patient-assisted bathroom complete with WC and wash hand basins 4nr	54,000		
				WCs 9nr	4,500		
				Wash hand basins 13nr	5,200		
				Showers 4nr	1,000		
				Multi-faith footwash 1nr	800		
				Kitchen sinks 5nr	2,500		
				Combined sink and slop hoppers 4nr	16,000		

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Cleaner's sinks 4nr	5,000			Staff attack system	170,320		
Installation of the above 256nr	23,040			Data and communication (circa 1,300 points)	149,030		
Disposal installation	93,100	22	0.60	TV/radio cabling (wireways only)	17,032		
Above-ground drainage to sanitaryware, utility rooms etc 256nr	89,600			Induction loop	4,258		
Above-ground drainage to central kitchen	3,500			Intruder alarm	12,774		
Water installation	283,770	67	1.83	Access control based on circa 170nr doors	255,480		
Incoming water supply, storage, water treatment and plantroom pipework and equipment	42,580			Video entry	10,000		
Cold water distribution (256 outlets)	115,200			Public address / voice alarm	10,000		
Hot water calorifiers incl heat exchanger	21,290			Containment	42,580		
Hot water distribution (174 outlets)	95,700			Specialist installations	227,900	54	1.47
Allowance for providing hot and cold water supply to main kitchen	4,000			Controls/BMS	212,900		
Allowance for CAT 5 cold water supply to refuse areas etc	5,000			Leak detection	15,000		
Heat source	315,480	74	2.04	Testing and commissioning of building services installations @ 7.5%	298,248	70	1.93
Gas-fired condensing boilers including gas train, controls and flue	60,000			M&E subcontractor preliminaries @ 12%	542,277	127	3.51
Plantroom pipework, valves and fittings etc	85,160			Builder's work in connection	106,450	25	0.6
CHP incl flue	127,740						
Plantroom pipework, valves and fittings etc	42,580			EXTERNAL WORKS AND DRAINAGE			
Space heating and air treatment	860,955	202	5.57	Site works	368,770	87	2.38
LTHW plantroom pipework, valves and fittings (secondary) incl equipment etc	42,580			Turfing and topsoil generally (4,137m ²)	41,370		
LTHW heating distribution inc insulation	127,740			Allowance for hard landscaping to garden spaces (752m ²)	150,400		
Heat emitters (rads, air curtains)	10,645			Allowance for site furniture to garden spaces	50,000		
Underfloor heating	149,030			Multi-use sports pitch (excluded)	0		
Chilled water plant and distribution	106,450			New external fencing (381m)	57,150		
Local cooling	20,000			New planting/hedge screening (171m)	59,850		
General supply and extract AHUs and ventilation ductwork distribution including grilles, dampers etc	404,510			External access gate and fence to refuse collection area	10,000		
Ventilation systems	114,450	27	0.74	Drainage	268,890	63	1.74
Dirty extract fans and associated ductwork, grilles, dampers etc	106,450			Allowance for underground drainage (building) (3,723m ²)	186,150		
Kitchen extract system	8,000			Allowance for underground drainage (land) (4,137m ²)	82,740		
Electrical installation	936,760	220	6.06	External services	175,000	41	1.13
Main LV switch panel and incoming supply	63,870			Allowance for incoming electrics incl new transformer, RMU etc	120,000		
Containment	51,096			Standby generator	Excluded		
LV sub-mains distribution incl distribution boards	76,644			Allowance for water connections	15,000		
Small power (1,250pts)	212,900			Allowance for gas connections	20,000		
Lighting (combination of non-anti-ligature and anti-ligature)	298,060			Allowance for IT and data connections	20,000		
Emergency lighting (combination of non-anti-ligature and anti-ligature)	106,450			Car parking area for 40 cars	140,000	33	0.91
Lighting control incl wiring	106,450						
Earthing and bonding	21,290			PRELIMINARIES			
Gas installations	25,274	6	0.16	Main contractor preliminaries (Management costs, site establishment and site supervision) @ 14%	1,774,952	417	11.48
Natural gas supplies to primary plant	12,500						
Natural gas to therapy kitchen/servery etc	12,774			OHP			
Lift installations	60,000	14	0.39	Main contractor OH&P @7%	1,011,723	238	6.54
Supply and installation of 13-person machine room less passenger lift to 2 floors, DDA compliant	60,000						
Protective installations	25,548	6	0.17	TOTAL CONSTRUCTION COST	15,464,907	3,632	100
Lighting protection	12,774						
Gas suppression	12,774			Acknowledgments			
Communication installations	1,033,404	243	6.68	<i>The authors would like to acknowledge the contribution of Aecom and IBI colleagues to the development of this article and cost model, including Gaye Charlton, Richard Mann, Ian Mitchell, Hemantha Perera Trevelyan and Andrew Rowland. We would also like to thank William Lauder of Ayrshire Central hospital, for his help in writing this article</i>			
Fire alarm incl void detection	127,740						
CCTV installation (internally only)	106,450						
Nurse call alarms inc WCs	127,740						