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Quick Reference - Rule of Thumb

Ref	Task / Description	Slow	Ave	Fast	Units
1	Site Investigation Pre Drilling	5.0	4.0	3.0	days/no
2	Ground Excavation, Hydraulic Backhoe	-	50.0	-	m ³ /day
3	Bored Piling, 25-70m deep	10.0	8.0	6.0	days/no
4	Formwork Fixing	-	12.0	-	m ² /day
5	Reinforcement Fixing	-	0.7	-	Tonnes/day
6	Concrete Placement	-	16.0	-	m ³ /day
7	Scaffold Erection, Steel Falsework	-	140.0	-	m ³ /day
8	Blockwork Laying	-	7.0	-	m ² /day
9	Plastering and Rendering	-	12.0	-	m ² /day
10	Blockwork Laying	7.0	12.0	17.5	m ² /day
11	Stonework Cladding	-	5.1	-	m ² /day
12	Window Glazing	-	1.5	-	m ² /hr
13	Granolithic Flooring	-	4.5	-	m ² /hr
14	Floor Screeding	-	4.5	-	m ² /hr
15	Floor Screeding	-	60.0	-	m ² /day
16	Ceramic Wall Tiling	-	1.5	-	m ² /hr

Demolition

	Task / Description	Slow	Ave	Fast	Units
	Weight, Structural Steel	-	2.5	-	Tonnes/m3
	Remove & Cart away, Ceramic Wall Tiles	2.0	2.5	3.4	m2/hr
	Remove & Cart away, Wallpaper, 1 layer	-	8.7	-	m2/hr
	Remove & Cart away, Wallpaper, 2 layers	-	7.1	-	m2/hr
	Remove & Cart away, Wallpaper, 3 layers	-	5.7	-	m2/hr
	Remove & Cart away, Lathe and Plaster Ceilings	3.2	4.6	5.0	m2/hr
	Remove & Cart away, Plaster to Walls	2.1	3.1	5.9	m2/hr
	Remove & Cart away, External Render	-	3.9	-	m2/hr
	Remove & Cart away, Floor Screed	-	3.2	-	m2/hr
	Remove & Cart away, Concrete Paving	-	4.0	-	m2/hr
	Remove & Cart away, Brickwork Walls, 1.0 brick thick	-	1.3	-	m2/hr
	Remove & Cart away, Brickwork Walls, 0.5 brick thick	-	2.6	-	m2/hr
	Remove & Cart away, Brickwork Walls, Sand/Lime Mortar	-	1.8	-	hrs/100
	Remove & Cart away, Fireplace and Hearth	-	1.9	-	hrs/no
	Remove & Cart away, Floor Boards	-	6.2	-	m2/hr
	Remove & Cart away, Skirting, Architrave, Dado rail etc	-	16.5	-	m/hr
	Remove & Cart away, Staircase	-	7.3	-	hrs/no
	Remove & Cart away, Windows, 0-1m2	-	0.6	-	hrs/no
	Remove & Cart away, Windows 1-2m2	-	0.8	-	hrs/no
	Remove & Cart away, Windows 2-3m2	-	0.9	-	hrs/no
	Remove & Cart away, Doors	-	0.3	-	hrs/on
	Remove & Cart away, Door Frame	-	0.1	-	hrs/no
	Remove & Cart away, Floor and Ceiling Joists	-	1.1	-	hrs/m
	Remove & Cart away, Wall Plates	-	3.9	-	hrs/m
	Remove & Cart away, Iron Bath	-	1.4	-	/hrs/no
	Remove & Cart away, Wash Basin/Sink	-	0.8	-	/hrs/no
	Remove & Cart away, Pipework including brackets etc	-	6.1	-	m/hr

Underpinning					
	Task / Description	Slow	Ave	Fast	Units
	Concrete Pinning, 4th or 5th pin cycles	-	1.2	2.2	m/day
	Brickwork Pinning, 1.0 brick thick	-	0.4	0.7	m ² /hr
	Brickwork Pinning, 1.5 brick thick	0.1	0.3	-	m ² /hr
	Brickwork Pinning, 2.0 brick thick	-	0.2	-	m ² /hr
	Wedge and Pin Method, 102mm wall	-	0.8	-	m/hr
	Wedge and Pin Method, 215mm wall	-	0.7	-	m/hr
	Wedge and Pin Method, 317mm wall	-	0.5	-	m/hr

Removable Anchors					
	Task / Description	Slow	Ave	Fast	Units
	Drill 30m shaft	-	7.0	-	hrs
	Install strands/setup anchor	-	6.0	-	hrs
	Grout in strands	-	2.0	-	hrs

Cutting Chases					
	Task / Description	Slow	Ave	Fast	Units
	Concrete, cutting by hand, < 25mm wide	1.5	2.1	3.1	m/hr
	Concrete, cutting by hand, 25-50mm wide	1.2	1.6	2.5	m/hr
	Concrete, cutting by hand, 50-75mm wide	1.0	1.4	2.1	m/hr
	Concrete, cutting by hand, 75-100mm wide	0.9	1.2	1.8	m/hr
	Concrete, cutting by machine, < 25mm wide	3.1	4.0	5.8	m/hr
	Concrete, cutting by machine, 25-50mm wide	2.5	3.3	5.0	m/hr
	Concrete, cutting by machine, 50-75mm wide	2.1	2.9	4.2	m/hr
	Concrete, cutting by machine, 75-100mm wide	1.8	2.4	3.7	m/hr
	Brickwork, cutting by hand, < 25mm wide	2.1	2.7	4.1	m/hr
	Brickwork, cutting by hand, 25-50mm wide	1.6	2.3	3.5	m/hr
	Brickwork, cutting by hand, 50-75mm wide	1.4	1.9	2.8	m/hr
	Brickwork, cutting by hand, 75-100mm wide	1.2	1.6	2.5	m/hr
	Brickwork, cutting by machine, < 25mm wide	4.2	5.5	11.1	m/hr
	Brickwork, cutting by machine, 25-50mm wide	3.3	4.5	6.7	m/hr
	Brickwork, cutting by machine, 50-75mm wide	3.3	4.5	6.7	m/hr
	Brickwork, cutting by machine, 75-100mm wide	2.5	3.3	5.0	m/hr
	Light Blockwork, cutting by hand, < 25mm wide	3.8	5.0	7.7	m/hr
	Light Blockwork, cutting by hand, 25-50mm wide	3.2	4.2	6.3	m/hr
	Light Blockwork, cutting by hand, 50-75mm wide	2.6	3.4	5.3	m/hr
	Light Blockwork, cutting by hand, 75-100mm wide	2.3	3.1	4.5	m/hr
	Light Blockwork, cutting by machine, < 25mm wide	7.7	10.0	14.2	m/hr
	Light Blockwork, cutting by machine, 25-50mm wide	5.9	7.7	11.1	m/hr
	Light Blockwork, cutting by machine, 50-75mm wide	5.2	7.2	10.0	m/hr
	Light Blockwork, cutting by machine, 75-100mm wide	4.7	6.3	9.1	m/hr
	Heavy Blockwork, cutting by hand, < 25mm wide	1.9	2.6	3.8	m/hr
	Heavy Blockwork, cutting by hand, 25-50mm wide	1.6	2.1	3.2	m/hr
	Heavy Blockwork, cutting by hand, 50-75mm wide	1.3	1.8	2.7	m/hr
	Heavy Blockwork, cutting by hand, 75-100mm wide	1.2	1.5	2.3	m/hr
	Heavy Blockwork, cutting by machine, < 25mm wide	3.8	5.0	7.7	m/hr
	Heavy Blockwork, cutting by machine, 25-50mm wide	3.2	4.2	6.2	m/hr
	Heavy Blockwork, cutting by machine, 50-75mm wide	2.7	3.6	5.2	m/hr
	Heavy Blockwork, cutting by machine, 75-100mm wide	2.3	3.1	4.5	m/hr

Concrete Works - Reinforcement Ratios					
Ref	Task / Description	Slow	Ave	Fast	Units
442	Pile Cap, Concrete m ³ x Ratio = Rebar Tonnes	-	14.8	-	% ratio
443	Base Slab, Concrete m ³ x Ratio = Rebar Tonnes	-	13.2	14.1	% ratio
444	Suspended Slab, Concrete m ³ x Ratio = Rebar Tonnes	-	20.6	25.6	% ratio
445	Platform Slab, Concrete m ³ x Ratio = Rebar Tonnes	-	15.6	-	% ratio
446	Columns, Concrete m ³ x Ratio = Rebar Tonnes	15.8	18.7	28.7	% ratio
447	Walls, Concrete m ³ x Ratio = Rebar Tonnes	14.7	15.0	-	% ratio

Sheet Piling					
	Task / Description	Slow	Ave	Fast	Units
	Vibro/Drop Hammer, 10m deep Sand	-	55.0	60.0	m/day
	Vibro/Drop Hammer, 35m deep Sand	3.5	32.0	10.5	m/day

Scaffolds and Crainage - Tower Cranes					
Ref	Task / Description	Slow	Ave	Fast	Units
345	Erect and Setup 50m gib	-	11.0	7.5	days
346	Dismantle 50m gib	-	10.0	-	days
347	Lifting, Reinforcement Bins and Cages, 1st 15m lift	-	3.2	-	mins/lift
348	Lifting, Reinforcement Bins and Cages, above 1st 15m lift	-	0.5	-	mins/15m
349	Lifting, Crane Tracking Time	-	3.3	-	seconds/m

Cutting Switchboxes					
	Task / Description	Slow	Ave	Fast	Units
	Cutting in Concrete, small box	7.1	9.5	12.5	no/hr
	Cutting in Concrete, large box	3.6	4.5	5.6	no/hr
	Cutting in Brickwork, small box	6.6	9.5	12.5	no/hr
	Cutting in Brickwork, large box	4.2	5.3	6.3	no/hr
	Cutting in Lightweight Blockwork, small box	20.0	23.0	25.0	no/hr
	Cutting in Lightweight Blockwork, large box	10.0	12.5	14.3	no/hr
	Cutting in Heavyweight Blockwork, small box	7.7	10.0	12.5	no/hr
	Cutting in Heavyweight Blockwork, large box	3.8	4.8	5.9	no/hr

Termite Control					
	Task / Description	Slow	Ave	Fast	Units
	Slab and walls, residential		17.5		m ² /hr
	Comercial Minimum		29		m ² /hr
	Comercial Maximum		19		m ² /hr

Handrail, Bumper and railing					
	Task / Description	Slow	Ave	Fast	Units
	Ladder with Cage		15		m/hr
	Ladder without Cage		26		m/hr
	Bumper Rail For garage	42	50	57	m/hr
	Railing Steel or galvanized		48		m/hr
	Railing Stainless Steel or high polish		36		m/hr
	Wall rail, alum., pipe satin finish		60		m/hr

Steel pipes					
	Task / Description	Slow	Ave	Fast	Units
	Black steel & Seamless Pipe & Hangers 1/4" to 3/4"		2.4		m/hr
	Black steel & Seamless Pipe & Hangers 1" to 2"		3		m/hr
	Valves up to 1"		21		Ea/day
	Valves over 1"		11		m/hr
					m/hr
					m/hr

Site Investigation					
	Task / Description	Slow	Ave	Fast	Units
	Pre Drilling, Percussive or Rotary, soft deposits	8.0	10.0	14.0	m/hr
	Pre Drilling, Wash Boring, grade V/IV rock	2.5	3.2	3.9	m/hr
	Pre Drilling, Triple Tube Sampling, grade V/IV rock	0.4	0.8	0.9	m/hr
	Pre Drilling, Rotary, grade III/II rock	0.2	0.5	0.7	m/hr
	Pre Drilling, Triple Tube Sampling, grade III/II rock	0.1	0.4	0.7	m/hr

Dewatering					
	Task / Description	Slow	Ave	Fast	Units
	Setup small 2 hole system	10.0	8.0	6.0	days
	Setup large 15 hole system	-	21.0	-	days
	Calculate system times per pump	-	2.5	-	days/pump
	Setup Recharge System	-	3.5	-	days/pump

Foundations and Excavation - Bulk Excavation

Ref	Task / Description	Slow	Ave	Fast	Units
270	Excavation Bulking Factor, Sand/Soil	-	15.0	20.0	%
271	Excavation Bulking Factor, Gravel	-	33.0	-	%
272	Excavation Bulking Factor, Clay/Chalk	-	40.0	-	%
273	Excavation Bulking Factor, Boulder Clay	-	45.0	-	%
274	Excavation Bulking Factor, Rock	-	60.0	-	%
275	Spoil Weight, Rock	-	2.5	-	Tonnes/m3
276	Spoil Weight, Concrete	-	2.4	-	Tonnes/m3
277	Spoil Weight, Landfill/CDG	-	1.9	-	Tonnes/m3
278	Spoil Weight, Sand	-	1.8	-	Tonnes/m3
279	Rail Mounted Grab, 2.0m3 bucket 2.4min lift cycle	30.0	48.0	59.0	m3/hr
280	Crane Mounted Clamshell Grab, 2.0m3 bucket 2.9min lift cycle	25.0	33.0	41.0	m3/hr
281	Crane Mounted Clamshell Grab, 2.5m3 bucket 2.9min lift cycle	34.0	42.0	52.0	m3/hr
	Hydraulic Jack Hammer, Clay/Chalk		15		m3/hr
	Hydraulic Jack Hammer, Hard Ground		4.5		m3/hr
282	Hydraulic Excavator, 0.3m3 bucket, Sand/Soil	6.9	8.7	10.2	m3/hr
283	Hydraulic Excavator, 0.4m3 bucket, Sand/Soil	23.4	28.6	33.4	m3/hr
284	Hydraulic Excavator, 0.5m3 bucket, Sand/Soil	45.5	50.0	58.0	m3/hr
285	Hydraulic Excavator, 0.3m3 bucket, Gravel Beds	5.6	7.1	8.2	m3/hr
286	Hydraulic Excavator, 0.4m3 bucket, Gravel Beds	20.5	25.0	29.0	m3/hr
287	Hydraulic Excavator, 0.5m3 bucket, Gravel Beds	36.8	40.0	46.0	m3/hr
288	Hydraulic Excavator, 0.3m3 bucket, Clay/Chalk	5.6	7.1	8.3	m3/hr
289	Hydraulic Excavator, 0.4m3 bucket, Clay/Chalk	20.5	25.0	28.7	m3/hr
290	Hydraulic Excavator, 0.5m3 bucket, Clay/Chalk	37.0	40.0	46.0	m3/hr
291	Hydraulic Excavator, 0.3m3 bucket, Hard Ground	4.5	6.1	7.2	m3/hr
292	Hydraulic Excavator, 0.4m3 bucket, Hard Ground	17.9	22.2	25.0	m3/hr
293	Hydraulic Excavator, 0.5m3 bucket, Hard Ground	25.7	28.6	32.9	m3/hr
294	75 HP Dozer open site Sand & gravel		45		m3/hr
295	150 HP Dozer open site Sand & gravel		66		m3/hr
296	75 HP Dozer open site Clay		25		m3/hr
297	150 HP Dozer open site Clay		36		m3/hr
298	200 HP Dozer open site Clay		75		m3/hr

Foundations and Excavation - Loading

Ref	Task / Description	Slow	Ave	Fast	Units
250	Loading Shovel 0.50 m3 bucket No hauling	40	50	60	m3/hr
251	Loading Shovel 1.1 m3 bucket No hauling	85	100	110	m3/hr
252	Loading Shovel 2.25 m3 bucket No hauling	150	170	190	m3/hr
253	Loading Shovel 3.8 m3 bucket No hauling	220	250	270	m3/hr

Foundations and Excavation - Common Earth Piled & Leveling

Ref	Task / Description	Slow	Ave	Fast	Units
255	Hydraulic Excavator, 0.35m3 bucket		15		m3/hr
256	Hydraulic Excavator, 0.50m3 bucket		35		m3/hr
257	Hydraulic Excavator, 0.75m3 bucket		45		m3/hr
258	Hydraulic Excavator, 1.00m3 bucket		50		m3/hr
	150 HP Dozer open site Sand & gravel				m3/hr

Foundations and Excavation -Hauling

Ref	Task / Description	Slow	Ave	Fast	Units
260	Hauling 12m3 Dump Truck 2Km round trip		32		m3/hr
261	Hauling 12m3 Dump Truck 4Km round trip		22		m3/hr
262	Hauling 12m3 Dump Truck 8Km round trip		13		m3/hr
263	Hauling 12m3 Dump Truck 16Km round trip		10		m3/hr
264	Hauling 12m3 Dump Truck 32Km round trip		6		m3/hr
265	Hauling 15m3 Dump Truck 2Km round trip		40		m3/hr
266	Hauling 15m3 Dump Truck 4Km round trip		25		m3/hr
267	Hauling 15m3 Dump Truck 8Km round trip		17		m3/hr
268	Hauling 15m3 Dump Truck 16Km round trip		13		m3/hr
269	Hauling 15m3 Dump Truck 32Km round trip		9		m3/hr

Basement Excavation

Ref	Task / Description	Slow	Ave	Fast	Units
	Hydraulic Excavator, 0.3m3 bucket, Sand/Soil - Basement Works	6.4	8.0	9.4	m3/hr
	Hydraulic Excavator, 0.3m3 bucket, Gravel Beds - Basement Works	5.5	6.9	8.1	m3/hr
	Hydraulic Excavator, 0.3m3 bucket, Clay/Chalk - Basement Works	5.2	6.5	7.9	m3/hr
	Hydraulic Excavator, 0.3m3 bucket, Hard Ground - Basement Works	4.7	5.9	8.2	m3/hr
	Hydraulic Excavator, 0.4m3 bucket, Sand/Soil - Basement Works	12.6	15.4	18.9	m3/hr
	Hydraulic Excavator, 0.4m3 bucket, Gravel Beds - Basement Works	11.7	14.3	16.7	m3/hr
	Hydraulic Excavator, 0.4m3 bucket, Clay/Chalk - Basement Works	10.9	13.3	15.6	m3/hr
	Hydraulic Excavator, 0.4m3 bucket, Hard Ground - Basement Works	9.7	11.8	14.0	m3/hr
	Hydraulic Excavator, 0.5m3 bucket, Sand/Soil - Basement Works	18.2	20.0	23.0	m3/hr
	Hydraulic Excavator, 0.5m3 bucket, Gravel Beds - Basement Works	16.5	18.1	20.0	m3/hr
	Hydraulic Excavator, 0.5m3 bucket, Clay/Chalk - Basement Works	15.4	16.7	19.3	m3/hr
	Hydraulic Excavator, 0.5m3 bucket, Hard Ground - Basement Works	13.3	15.4	17.7	m3/hr

Excavate and Remove

Task / Description	Slow	Ave	Fast	Units
Excavate Spoil Heaps to Transport, 0.6m ³ bucket, Sand/Soil	14.5	20.0	25.6	m ³ /hr
Excavate Spoil Heaps to Transport, 0.6m ³ bucket, Gravel Beds	15.2	20.4	25.6	m ³ /hr
Excavate Spoil Heaps to Transport, 0.6m ³ bucket, Clay/Chalk	12.3	18.5	23.2	m ³ /hr
Excavate Spoil Heaps to Transport, 0.6m ³ bucket, Boulder Clay	11.2	16.9	21.3	m ³ /hr
Excavate Spoil Heaps to Transport, 1.1m ³ bucket, Sand/Soil	25.4	30.3	35.7	m ³ /hr
Excavate Spoil Heaps to Transport, 1.1m ³ bucket, Gravel Beds	25.6	31.3	37.0	m ³ /hr
Excavate Spoil Heaps to Transport, 1.1m ³ bucket, Clay/Chalk	22.5	27.8	33.3	m ³ /hr
Excavate Spoil Heaps to Transport, 1.1m ³ bucket, Boulder Clay	18.9	24.4	30.3	m ³ /hr
Load Spoil to Barge, capacity 2,000m ³	-	8.0	-	hrs
Load Spoil to Barge, capacity 1,500m ³	-	6.5	-	hrs
Load Spoil to Barge, capacity 1,000m ³	-	5.5	-	hrs
Spoil conveyor, 600mm belt, 150m/min	-	260.0	-	m ³ /hr

Trench Excavation

Task / Description	Slow	Ave	Fast	Units
Hydraulic Excavator, 0.3m ³ bucket, Sand/Soil	5.6	7.1	8.2	m ³ /hr
Hydraulic Excavator, 0.3m ³ bucket, Gravel Beds	4.8	6.1	7.3	m ³ /hr
Hydraulic Excavator, 0.3m ³ bucket, Clay/Chalk	4.8	6.1	7.1	m ³ /hr
Hydraulic Excavator, 0.3m ³ bucket, Hard Ground	9.7	5.4	6.4	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Sand/Soil	20.5	25.0	29.2	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Gravel Beds	18.2	22.2	26.0	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Clay/Chalk	18.2	22.2	26.0	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Hard Ground	17.0	20.0	23.4	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Sand/Soil	26.0	28.6	33.1	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Gravel Beds	26.3	28.6	33.2	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Clay/Chalk	26.3	28.6	33.2	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Hard Ground	22.7	25.0	28.8	m ³ /hr
Excavate and Board Trench, 0.5-1.5m deep, < 2.0m wide	3.3	4.5	6.8	m ² /hr
Excavate and Board Trench, 1.5-3.0m deep, < 2.0m wide	3.0	4.2	6.5	m ² /hr
Excavate and Board Trench, 3.0-4.5m deep, < 2.0m wide	2.7	4.0	6.0	m ² /hr
Excavate and Board Trench, 0.5-1.5m deep, > 2.0m wide	6.6	7.1	8.8	m ² /hr
Excavate and Board Trench, 1.5-3.0m deep, > 2.0m wide	6.2	6.7	9.2	m ² /hr
Excavate and Board Trench, 3.0-4.5m deep, > 2.0m wide	5.8	6.2	10.5	m ² /hr

Small or Deep Excavation

Task / Description	Slow	Ave	Fast	Units
Hydraulic Excavator, 0.3m ³ bucket, Sand/Soil	6.7	8.4	9.9	m ³ /hr
Hydraulic Excavator, 0.3m ³ bucket, Gravel Beds	3.2	4.5	5.0	m ³ /hr
Hydraulic Excavator, 0.3m ³ bucket, Clay/Chalk	3.3	4.1	5.2	m ³ /hr
Hydraulic Excavator, 0.3m ³ bucket, Hard Ground	3.3	4.1	5.2	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Sand/Soil	8.2	10.0	11.7	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Gravel Beds	7.1	8.7	10.2	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Clay/Chalk	6.5	8.3	9.4	m ³ /hr
Hydraulic Excavator, 0.4m ³ bucket, Hard Ground	6.3	7.7	9.1	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Sand/Soil	12.2	13.3	15.4	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Gravel Beds	10.2	11.1	12.9	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Clay/Chalk	9.7	10.5	12.1	m ³ /hr
Hydraulic Excavator, 0.5m ³ bucket, Hard Ground	6.1	6.7	7.7	m ³ /hr

Rock Tunnels

Task / Description	Slow	Ave	Fast	Units
Excavation, non explosive chemical method, cycle time	8.0	6.0	5.5	mins
Excavation, non explosive chemical method, Class I Granite	0.3	0.9	1.2	m ³ /cycle
Excavation, non explosive chemical method, Class II Granite	2.0	2.6	2.9	m ³ /cycle
Excavation, non explosive chemical method, Class III Granite	1.2	1.4	1.8	m ³ /cycle

Site Clearance

Task / Description	Slow	Ave	Fast	Units
Shrubs and Bushes, dig up and removal	-	25.0	38.0	m ² /hr
Turf, lifting and removal	-	2.9	-	m ² /hr
Trees, small sizes and shrubs	-	14.0	-	m ² /hr
Trees and Shrubs, 500mm - 900mm girth	-	18.0	-	hrs/no
Trees and Shrubs, 900mm - 1200mm girth	-	22.0	-	hrs/no
Trees and Shrubs, 1200mm - 1500mm girth	-	26.0	-	hrs/no
Hedges and Roots, 0.5-1.0m high	-	0.9	-	m/hr
Hedges and Roots, 1.0-1.5m high	-	0.8	-	m/hr
Hedges and Roots, 1.5-2.0m high	-	0.6	-	m/hr

Spread and Level					
	Task / Description	Slow	Ave	Fast	Units
	Grader		150		m3/hr
					m2/hr
					m2/hr
	Crawler Shovel, 0.8m3 bucket, Sand/Soil, pushed 5-50m to stockpile	13.9	20.4	25.0	m3/hr
	Crawler Shovel, 0.8m3 bucket, Sand/Soil, pushed 50-120m to stockpile	7.6	9.5	12.6	m3/hr
	Crawler Shovel, 0.8m3 bucket, Gravel, pushed 5-50m to stockpile	14.2	20.4	25.6	m3/hr
	Crawler Shovel, 0.8m3 bucket, Gravel, pushed 50-120m to stockpile	7.6	10.2	12.8	m3/hr
	Crawler Shovel, 0.8m3 bucket, Clay/Chalk, pushed 5-50m to stockpile	12.7	18.4	23.2	m3/hr
	Crawler Shovel, 0.8m3 bucket, Clay/Chalk, pushed 50-120m to stockpile	6.9	8.9	11.6	m3/hr
	Crawler Shovel, 0.8m3 bucket, Boulder Clay, pushed 5-50m to stockpile	11.6	16.9	21.3	m3/hr
	Crawler Shovel, 0.8m3 bucket, Boulder Clay, pushed 50-120m to stockpile	6.3	8.2	10.4	m3/hr
	Crawler Shovel, 1.2m3 bucket, Sand/Soil, pushed 5-50m to stockpile	23.8	28.5	35.7	m3/hr
	Crawler Shovel, 1.2m3 bucket, Sand/Soil, pushed 50-120m to stockpile	16.7	18.5	20.4	m3/hr
	Crawler Shovel, 1.2m3 bucket, Gravel, pushed 5-50m to stockpile	25.0	32.0	37.0	m3/hr
	Crawler Shovel, 1.2m3 bucket, Gravel, pushed 50-120m to stockpile	17.2	19.3	21.2	m3/hr
	Crawler Shovel, 1.2m3 bucket, Clay/Chalk, pushed 5-50m to stockpile	21.7	27.5	33.3	m3/hr
	Crawler Shovel, 1.2m3 bucket, Clay/Chalk, pushed 50-120m to stockpile	15.1	16.9	18.8	m3/hr
	Crawler Shovel, 1.2m3 bucket, Boulder Clay, pushed 5-50m to stockpile	19.6	24.5	30.3	m3/hr
	Crawler Shovel, 1.2m3 bucket, Boulder Clay, pushed 50-120m to stockpile	13.7	15.9	17.5	m3/hr
	Crawler Shovel, 0.6m3 bucket, 50-200m2, Sand/Soil	18.6	28.5	38.5	m3/hr
	Crawler Shovel, 0.6m3 bucket, over 200m2, Sand/Soil	24.4	37.2	50.0	m3/hr
	Crawler Shovel, 0.6m3 bucket, 50-200m2, Gravel	18.9	28.6	38.4	m3/hr
	Crawler Shovel, 0.6m3 bucket, over 200m2, Gravel	24.2	37.2	50.0	m3/hr
	Crawler Shovel, 0.6m3 bucket, 50-200m2, Hardcore	15.8	23.5	31.2	m3/hr
	Crawler Shovel, 0.6m3 bucket, over 200m2, Hardcore	19.2	29.6	40.0	m3/hr
	Crawler Shovel, 0.6m3 bucket, 50-200m2, Boulder Clay	17.2	26.4	35.7	m3/hr
	Crawler Shovel, 0.6m3 bucket, over 200m2, Boulder Clay	22.2	33.8	45.4	m3/hr
	Crawler Shovel, 1.2m3 bucket, 50-200m2, Sand/Soil	43.5	48.0	52.6	m3/hr
	Crawler Shovel, 1.2m3 bucket, over 200m2, Sand/Soil	55.5	61.1	66.7	m3/hr
	Crawler Shovel, 1.2m3 bucket, 50-200m2, Gravel	43.8	48.3	52.9	m3/hr
	Crawler Shovel, 1.2m3 bucket, over 200m2, Gravel	55.5	61.1	66.7	m3/hr
	Crawler Shovel, 1.2m3 bucket, 50-200m2, Hardcore	37.1	40.3	43.5	m3/hr
	Crawler Shovel, 1.2m3 bucket, over 200m2, Hardcore	47.6	51.6	55.6	m3/hr
	Crawler Shovel, 1.2m3 bucket, 50-200m2, Boulder Clay	43.8	45.7	47.6	m3/hr
	Crawler Shovel, 1.2m3 bucket, over 200m2, Boulder Clay	55.6	59.1	62.5	m3/hr

Backfill					
	Task / Description	Slow	Ave	Fast	Units
	2Labor+Compactor (Manual spread & leveling)	0.5	0.65	0.8	m3/hr
	Loader + 5 labor with compacting		50		m2/hr
	loader + Damp truck Backfill For buildings		25		m3/hr
	loader + Damp truck Backfill For Trenches		50		m3/hr
	Backfill by hand no compaction Light soil		1.3		m3/hr
	Backfill by hand no compaction Heavy soil		1		m3/hr
					m2/hr
					m2/hr

Ground Compaction					
	Task / Description	Slow	Ave	Fast	Units
	Deep Vibroflot, 3m centres	330.0	380.0	465.0	m3/hr
	Vibro-Roller, Sand	28.5	31.2	45.2	m2/hr
	Vibro-Roller, Soil	-	58.8	-	m2/hr
	Vibro-Roller, Clay	-	55.6	-	m2/hr
	Vibro-Roller, Hardcore	-	38.4	-	m2/hr
	Vibro-Roller, Ash	-	57.8	-	m2/hr
	Compaction Hand tamp in 25cm layers		2		m3/hr
	Vibrating plate		8.5		m3/hr
	Walk behind, Vibrating plate 45cm wide 15cm lifts, 2 passes		26		m3/hr
	Walk behind, Vibrating plate 45cm wide 15cm lifts, 3 passes		17		m3/hr
	Walk behind, Vibrating plate 45cm wide 15cm lifts, 4 passes		13		m3/hr
	Walk behind, Vibrating plate 45cm wide 30cm lifts, 2 passes		53		m3/hr
	Walk behind, Vibrating plate 45cm wide 30cm lifts, 3 passes		35		m3/hr
	Walk behind, Vibrating plate 45cm wide 30cm lifts, 4 passes		27		m3/hr
	Walk behind, Vibrating plate 60cm wide 15cm lifts, 2 passes		40		m3/hr
	Walk behind, Vibrating plate 60cm wide 15cm lifts, 3 passes		26		m3/hr
	Walk behind, Vibrating plate 60cm wide 15cm lifts, 4 passes		20		m3/hr
	Walk behind, Vibrating plate 60cm wide 30cm lifts, 2 passes		80		m3/hr
	Walk behind, Vibrating plate 60cm wide 30cm lifts, 3 passes		50		m3/hr
	Walk behind, Vibrating plate 60cm wide 30cm lifts, 4 passes		32		m3/hr
	Ridding Vibrating Roller 15cm Lifts 2 Passes		250		m3/hr
	Ridding Vibrating Roller 15cm Lifts 3 Passes		165		m3/hr
	Ridding Vibrating Roller 15cm Lifts 4 Passes		124		m3/hr
	Ridding Vibrating Roller 30cm Lifts 2 Passes		450		m3/hr
	Ridding Vibrating Roller 30cm Lifts 3 Passes		330		m3/hr
	Ridding Vibrating Roller 30cm Lifts 4 Passes		248		m3/hr
	Sheeps Foot or Webby wheel Roller 15cm Lifts 2 Passes		250		m3/hr
	Sheeps Foot or Webby wheel Roller 15cm Lifts 3 Passes		165		m3/hr
	Sheeps Foot or Webby wheel Roller 15cm Lifts 4 Passes		124		m3/hr
	Sheeps Foot or Webby wheel Roller 30cm Lifts 2 Passes		450		m3/hr
	Sheeps Foot or Webby wheel Roller 30cm Lifts 3 Passes		330		m3/hr
	Sheeps Foot or Webby wheel Roller 30cm Lifts 4 Passes		248		m3/hr
					m3/hr

Bored Piling					
	Task / Description	Slow	Ave	Fast	Units
	Cycle Time, 5-20m deep	8.0	4.0	4.0	days/no
	Cycle Time, 20-40m deep	10.0	8.0	-	days/no
	Cycle Time, 40-70m deep	25.0	10.0	-	days/no
	Cycle Time, 70-90m deep	45.0	25.0	-	days/no
	Cycle Time, 90-135m deep	60.0	45.0	-	days/no
	Move piling setup to next location	-	2.0	-	hrs
	Excave shaft by grab, general fill/uppr levels	-	3.5	-	m/hr
	Excave shaft by grab, sand/minor rubble	-	2.1	-	m/hr
	Excave shaft by grab, marine/aluvium	-	2.5	-	m/hr
	Excave shaft by grab/RCD, CDT	-	0.5	-	m/hr
	Excave shaft by grab/RCD, CDG <150	-	1.5	-	m/hr
	Excave shaft by RCD, CDG 150-200	-	1.0	-	m/hr
	Excave shaft by RCD, CDG >200/gravel	-	0.5	-	m/hr
	Excave shaft by RCD/Chisel, corestones	-	0.5	-	m/hr
	Excave Rock Socket by RCD, grade IV/V rock	-	0.2	0.3	m/hr
	Excave Rock Socket by RCD, grade II/III rock	-	0.1	0.2	m/hr
	Excave Rock Socket by RCD, tendering rate	-	0.1	-	m/hr
	Add/remove RCD plant	-	2.0	-	hrs
	Add/remove RCD drill string/drill bit	-	5.0	-	hrs
	Remove Obstruction, above water hand hammers	-	0.8	-	m/hr
	Remove Obstruction, below water heavy chisel	-	0.5	-	m/hr
	Concrete Plug, RCD off/tremmie/concrete/cure/RCD on	60.0	53.0	50.0	hrs
	Install air lift tremmie tube	-	5.0	-	hrs
	Fabricate reinforcement cages	-	2.5	-	hs/cage
	Install reinforcement cages	-	2.0	-	hrs/no
	Shaft cleaning, air lifting after excavation	-	8.0	-	hrs
	Shaft cleaning, air lifting after cage installed	-	2.0	-	hrs
	Shaft concreting/extract casing 5-70m deep	-	12.0	-	hrs
	Shaft concreting/extract casing 70-95m deep	-	14.0	-	hrs
	Shaft concreting/extract casing 95-135m deep	-	48.0	-	hrs
	Concrete curing prior to remove telescopic casing	-	72.0	-	hrs
	Concrete Testing, Coring Test	-	3.2	2.2	m/hr
	Concrete Testing, Sonic Logging Test	-	2.5	-	hrs/no
	Concrete Testing, Vibration Test	-	6.5	-	hrs/no

Slurry Mix Walls					
	Task / Description	Slow	Ave	Fast	Units
	Crane grab, cement/bentonite and sheet piles	1.8	2.5	3.4	m/day

Cutting Back					
	Task / Description	Slow	Ave	Fast	Units
	Concrete Pile Caps, 50-300mm deep and 0.6m dia	0.6	-	0.3	hrs/no
	Concrete Pile Caps, 300-750mm deep and 0.6m dia	1.5	-	0.4	hrs/no
	Concrete Pile Caps, > 750mm deep and 0.6m dia	1.8	-	0.8	hrs/no
	Concrete Pile Caps, 50-300mm deep and 1.1m dia	1.9	-	0.8	hrs/no
	Concrete Pile Caps, 300-750mm deep and 1.1m dia	2.5	-	1.1	hrs/no
	Concrete Pile Caps, > 750mm deep and 1.1m dia	4.2	-	2.3	hrs/no
	Concrete Pile Caps, 50-300mm deep and 2.5m dia	9.2	-	8.2	hrs/no
	Concrete Pile Caps, 300-750mm deep and 2.5m dia	10.1	-	9.5	hrs/no
	Concrete Pile Caps, > 750mm deep and 2.5m dia	11.5	-	10.2	hrs/no
	Concrete, Cutting Slabs, 5-25m deep	-	15.2	-	m/hr
	Concrete, Cutting Slabs, 25-50m deep	-	11.5	-	m/hr
	Concrete, Cutting Slabs, 50-75m deep	-	6.7	-	m/hr
	Concrete, Cutting Holes, coring machine	-	0.2	-	m3/hr
	Concrete, Cutting Back to expose couplers 0.7m slab	-	2.5	-	m/day

Landscaping					
	Task / Description	Slow	Ave	Fast	Units
	Top Soil, spread, level and prepare for turf or seeding	-	2.5	-	m2/hr
	Top Soil, rake in fertilizer for seeding	-	25.0	-	m2/hr
	Planting, Shrubs and Hedges, under 750mm high	-	4.0	-	no/hr
	Planting, Shrubs and Hedges, over 750mm high	-	1.5	-	no/hr
	Planting, Saplings, under 3.0m high	-	1.7	-	no/hr
	Turfing, including for minor preparations	-	16.8	-	m2/hr

Roads & External Works - Kerbs & Paving					
Ref	Task / Description	Slow	Ave	Fast	Units
984	Concrete Slabs, laid on bedding, to slight falls	2.7	-	4.2	m2/hr
985	Concrete Slabs, laid on bedding, to steep falls	2.3	-	2.7	m2/hr
986	Concrete Slabs, laid in mortar, to slight falls	1.5	-	2.3	m2/hr
987	Concrete Slabs, laid in mortar, to steep falls	1.1	-	1.5	m2/hr
988	Concrete Slabs, laid on sand, to slight falls	1.7	-	2.8	m2/hr
989	Concrete Slabs, laid on sand, to steep falls	1.6	-	1.9	m2/hr
990	Cobble Stones, laid in mortar, no patterns	-	0.3	-	m2/hr
991	Cobble Stones, laid in mortar, with patterns	-	0.2	-	m2/hr
992	Artificial Stone, laid on sand, with patterns	-	2.5	-	m2/hr
993	Brick Paviers, in mortar, straight joints	0.9	1.3	1.9	m2/hr
994	Brick Paviers, in mortar, herringbone pattern	-	1.0	1.2	m2/hr
995	Gravel Paths, including preparation of sub-base	-	10.5	-	m2/hr
996	Concrete Paths, 100mm thick, including preparation of sub-base	-	2.5	-	m2/hr
997	Concrete Kerbs or Channels, laid straight	-	6.2	-	m/hr
998	Concrete Kerbs or Channels, laid to 5m radius	-	4.5	-	m/hr
999	Concrete Kerbs or Channels, laid to 10m radius	-	5.0	-	m/hr
1000	Concrete Kerbs or Channels, laid to 20m radius	-	5.5	-	m/hr
1001	Stone/Granite Kerbs or Channels, laid straight	-	3.5	-	m/hr
1002	Concrete Edging, laid straight	-	7.7	-	m/hr
1003	Concrete Edging, laid to 5m radius	-	5.8	-	m/hr
1004	Concrete Edging, laid to 10m radius	-	6.2	-	m/hr
1005	Concrete Edging, laid to 20m radius	-	7.1	-	m/hr
1006	Cutting and Fitting Ends, Concrete Kerbs	-	6.6	-	no/hr
1007	Cutting and Fitting Ends, Channels	-	5.8	-	no/hr
1008	Cutting and Fitting Ends, Concrete Edging	-	8.3	-	no/hr

Road surfacing					
	Task / Description	Slow	Ave	Fast	Units
حفار ٢+	حفر وتنسوية		70 m3		m3/day
لودر ٣+ انقلاب	أعمال الردم		115 m3		m3/day
لودر ٤+ انقلاب	طبقة الاساس		550 m2		m2/day
جرير ١+ هرا	طبقة مكرام		500 m2		m2/day
غلاية ٢+	طبقة M25		1000 m2		m2/day
فنتشر ٣+ هراين	طبقة رابطة		1500:3000		m2/day
عامل +	طبقة RC2		1000 M2		m2/day
٤+	طبقة سطخية		700 m3		m3/day

Paving and surfacing					
	Task / Description	Slow	Ave	Fast	Units
	Asphaltic Concrete Pavement for highways and large paved area Binder Course < 5cm thick		6450		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Binder Course 5cm thick		5300		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Binder Course 7.5cm thick		4100		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Binder Course 10cm thick		3450		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Wearing Course 2.5cm thick		8800		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Wearing Course 4cm thick		6450		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Wearing Course 5cm thick		5300		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Wearing Course 6cm thick		4580		m2/day
	Asphaltic Concrete Pavement for highways and large paved area Wearing Course 7.5cm thick		4100		m2/day
	Pavement Replacement over trench 5cm thick		75		m2/day
	Pavement Replacement over trench 10cm thick		58		m2/day
	Pavement Replacement over trench 15cm thick		45		m2/day

Pavement Base					
	Task / Description	Slow	Ave	Fast	Units
	Base Prepare and roll Sub-Base, Small areas to 2000m ²		1250		m ² /day
	Base Prepare and roll Sub-Base, Small areas over 2000m ²		3000		m ² /day
	Base Course For roadways and large areas crushed 3/4" stone base, compacted 7.5cm deep		3300		m ² /day
	Base Course For roadways and large areas crushed 3/4" stone base, compacted 15cm deep		3200		m ² /day
	Base Course For roadways and large areas crushed 3/4" stone base, compacted 20cm deep		2400		m ² /day
	Base Course For roadways and large areas crushed 3/4" stone base, compacted 30cm deep		1950		m ² /day
	Base Course For roadways and large areas crushed 1-1/2" stone base, compacted 7.5cm deep		4300		m ² /day
	Base Course For roadways and large areas crushed 1-1/2" stone base, compacted 15cm deep		3250		m ² /day
	Base Course For roadways and large areas crushed 1-1/2" stone base, compacted 20cm deep		2500		m ² /day
	Base Course For roadways and large areas crushed 1-1/2" stone base, compacted 30cm deep		1500		m ² /day

Concrete Road surfacing					
	Task / Description	Slow	Ave	Fast	Units
	Concrete Road surfacing, Kerbs or Side Haunches	-	0.4	-	m ³ /hr
	Concrete Road surfacing, 150mm thick	-	12.5	-	m ² /hr
	Concrete Road surfacing, 200mm thick	-	7.7	-	m ² /hr
	Concrete Road surfacing, 300mm thick	-	6.7	-	m ² /hr
	Parking Barriers	-	20	-	m ² /hr

Fencing Works					
	Task / Description	Slow	Ave	Fast	Units
	Site Hoarding, timber posts, plywood nailed to horizontal rails	1.0	1.2	-	m/hr
	Post Erection, Timber / Metal, dig, erect, fix	3.3	4.5	-	no/hr
	Post Erection, Concrete, dig, erect, fix	3.2	4.0	-	no/hr
	Fence Erection, Chainlink, posts at 1.5m	-	4.2	-	m/hr
	Fence Erection, Chainlink, posts at 2.0m	-	4.4	-	m/hr
	Fence Erection, Chainlink, posts at 3.0m	-	5.5	-	m/hr
	Fence Erection, Chestnut Pailings, posts at 1.5m	-	23.8	-	m/hr
	Fence Erection, Chestnut Pailings, posts at 2.0m	-	33.3	-	m/hr
	Fence Erection, Chestnut Pailings, posts at 3.0m	-	41.6	-	m/hr
	Fence Erection, Barbed Wire, posts at 1.5m	-	71.4	-	m/hr
	Fence Erection, Barbed Wire, posts at 2.0m	-	100.0	-	m/hr
	Fence Erection, Barbed Wire, posts at 3.0m	-	125.0	-	m/hr
	Gate Erection, Chainlink on frame	-	4.1	-	no/hr

Bridge Works - Formwork					
Ref	Task / Description	Slow	Ave	Fast	Units
963	Shaft Slip Forming	-	300.0	500.0	mm/hr
Concrete Works - Formwork					
Ref	Task / Description	Slow	Ave	Fast	Units
350	Pilecaps, < 0.7m2	0.9	1.6	2.0	m2/hr
351	Pilecaps, 0.7-2.5m2	1.6	2.0	2.3	m2/hr
352	Pilecaps, 2.5-3.0m2	2.0	2.3	2.5	m2/hr
353	Pilecaps, > 3.0m2	2.3	2.5	3.1	m2/hr
354	Ground Beams, < 0.7m2	1.1	1.7	1.8	m2/hr
355	Ground Beams, 0.7-1.5m2	1.7	1.8	2.5	m2/hr
356	Ground Beams, 1.5-3.0m2	1.8	2.5	2.6	m2/hr
357	Ground Beams, 3.0-5.0m2	2.5	2.6	3.5	m2/hr
358	Elevated Plain Slab Soffit	0.6	0.8	1.2	m2/hr
359	Beams, on erected falsework, width 100-200mm	0.9	1.0	1.1	m2/hr
360	Beams, on erected falsework, width 200-300mm	1.0	1.1	1.3	m2/hr
361	Beams, on erected falsework, width 300-500mm	1.2	1.3	1.5	m2/hr
362	Beams, on erected falsework, width 500-750mm	1.5	1.6	1.8	m2/hr
363	Beams, on erected falsework, width over 750mm	1.4	1.5	1.7	m2/hr
364	Walls, Construct Kickers	5.3	7.1	10.0	m2/hr
365	Walls, Fully Framed Formwork /Struts, 1.0-2.0m2	0.9	1.8	1.9	m2/hr
366	Walls, Fully Framed Formwork /Struts, 2.0-5.0m2	1.0	2.2	2.5	m2/hr
367	Walls, Fully Framed Formwork /Struts, over 5.0m2	1.2	2.5	2.9	m2/hr
368	Walls, StoriForm Shutters, 1.0-3.0m2	1.0	1.4	2.0	m2/hr
369	Walls, StoriForm Shutters, 3.0-5.0m2	1.9	2.3	3.3	m2/hr
370	Walls, StoriForm Shutters, 5.0-10.0m2	2.3	2.8	3.5	m2/hr
371	Walls, StoriForm Shutters, 10.0-15.0m2	3.2	4.5	4.0	m2/hr
372	Walls, StoriForm Shutters, over 15.0m2	3.8	4.8	5.4	m2/hr
373	Ground Slabs	1.0	1.5	1.8	m2/hr
374	Columns, Construct Kickers, direct to slab	3.2	4.1	5.4	no/hr
375	Columns, Construct Kickers, suspended from soffit slab	1.2	2.8	3.2	no/hr
376	Columns, Square Sides, Timber Clamp /Prop, csa < 0.1m2	1.3	1.6	1.8	m2/hr
377	Columns, Square Sides, Timber Clamp /Prop, csa 0.1-0.4m2	1.8	2.1	2.4	m2/hr
378	0.4m2	2.0	2.3	2.5	m2/hr
379	Columns, Square Sides, Steel Forms, 1.5 x 1.5 x 9.0m high	7.9	9.5	10.3	m2/hr
380	Columns, Square Sides, Steel Forms, 2.0 x 2.0 x 9.0m high	6.9	7.5	8.3	m2/hr
381	Columns, Square Sides, Steel Forms, 2.0 x 4.0 x 9.0m high	8.5	10.2	12.0	m2/hr
382	dia	3.5	4.5	6.0	m2/hr
383	Columns, Round Sides, Steel Mould, 3.0-4.0m dia	5.2	6.5	7.5	m2/hr
384	Columns, Sloping Column Heads, extra over rate	-	2.5	3.5	hrs/no
385	Staircases, Stair Soffit, Sloping	0.7	0.8	1.0	m2/hr
386	Staircases, Stair Soffit, Flat Landing	0.8	0.9	1.2	m2/hr
387	Staircases, Wall Strings	0.4	0.6	-	m2/hr
388	Staircases, Open Strings	0.7	0.8	-	m2/hr
389	Staircases, Riser Boards fixed to strings	-	2.5	2.8	m2/hr
390	Staircases, Risers fixed to Strings	-	2.3	2.6	m2/hr
391	Waffle Flooring, 2.4m grid	1.1	1.4	1.8	m2/hr
392	Shaft Slip Forming	-	300.0	500.0	mm/hr
393	Table Form, Aluminum System, 400m2 bays	2.1	3.2	3.8	m2/hr
394	Table Form, H-Frame Steel Falsework, 400m2 bays	1.9	3.0	3.5	m2/hr
395	Tunnel Forms, Wall and Slab poured as one	-	15.6	17.5	m2/hr
396	Hollorib Decking, lay deck	-	43.5	47.5	m2/hr
397	Hollorib Decking, shear connecting studs	-	29.3	31.2	m2/hr
398	Stop Ends, no perforations	2.8	3.5	4.2	m2/hr

Concrete Works - Formwork

Ref	Task / Description	Slow	Ave	Fast	Units
399	Stop Ends, minor perforations	1.2	1.5	1.9	m2/hr
400	Stop Ends, dense perforations	0.9	1.1	1.4	m2/hr
401	Box Outs, 0.01-0.05m2	7.6	8.2	9.1	no/hr
402	Box Outs, over 0.05m2	3.1	3.9	4.5	no/hr
403	Dummy Frames, under 3.0m2	4.5	6.2	7.1	no/hr
404	Dummy Frames, over 3.0m2	3.1	3.7	4.5	no/hr

Carpentry & Joinery

	Task / Description	Slow	Ave	Fast	Units
	Formwork to Soffit of Manhole	-	1.8	-	m2/hr
	Formwork to Walls of Manhole	11.2	14.2	20.2	m2/hr
	Formwork to Road Edges, straight	-	7.7	-	m/hr
	Formwork to Road Edges, curves	-	6.2	-	m/hr

Breaking Out

	Task / Description	Slow	Ave	Fast	Units
	Concrete Slabs, unreinforced 50-150mm	3.2	-	1.9	hrs/m3
	Concrete Slabs, unreinforced 150-300mm	5.5	4.1	3.7	hrs/m3
	Concrete Slabs, reinforced 50-150mm	5.2	-	3.9	hrs/m3
	Concrete Slabs, reinforced 150-300mm	9.1	6.2	4.7	hrs/m3
	Concrete Walls, unreinforced	4.7	3.9	3.1	hrs/m3
	Concrete Walls, reinforced	5.6	4.7	3.9	hrs/m3
	Concrete Foundations, unreinforced	3.6	3.3	3.0	hrs/m3
	Concrete Foundations, reinforced	5.4	5.1	4.8	hrs/m3
	Concrete Beams	7.5	6.5	5.6	hrs/m3
	Concrete Columns	9.2	8.2	7.3	hrs/m3
	Tarmac paving 20-50mm thick	1.9	1.7	1.5	hrs/m3
	Tarmac paving 50-100mm thick	2.1	-	1.6	hrs/m3
	Tarmac paving 100-150mm thick	2.1	-	1.7	hrs/m3
	Tarmac roadway 150mm thick	-	3.6	-	hrs/m3
	Brickwork, walls and columns	2.4	1.8	1.3	hrs/m3
	Brickwork, foundations	2.7	2.1	1.5	hrs/m3

Concrete Works - Reinforcement

Ref	Task / Description	Slow	Ave	Fast	Units
405	Slabs/Foundations, steelfixing, 6mm	40.3	38.4	36.5	hrs/tonne
406	Slabs/Foundations, steelfixing, 8mm	28.2	26.9	25.8	hrs/tonne
407	Slabs/Foundations, steelfixing, 10mm	22.5	20.6	20.1	hrs/tonne
408	Slabs/Foundations, steelfixing, 12mm	16.9	16.3	15.4	hrs/tonne
409	Slabs/Foundations, steelfixing, 16mm	12.0	11.5	10.9	hrs/tonne
410	Slabs/Foundations, steelfixing, 20mm	9.2	8.6	8.2	hrs/tonne
411	Slabs/Foundations, steelfixing, 25mm	6.9	6.7	6.5	hrs/tonne
412	Slabs/Foundations, steelfixing, 32mm	5.7	5.5	5.2	hrs/tonne
413	Slabs/Foundations, steelfixing, 40mm	5.3	5.1	4.9	hrs/tonne
414	Slabs/Foundations, steelfixing, 50mm	5.2	4.9	4.6	hrs/tonne
415	Beams/Columns, steelfixing, 6mm	55.4	52.8	50.6	hrs/tonne
416	Beams/Columns, steelfixing, 8mm	38.8	37.0	35.1	hrs/tonne
417	Beams/Columns, steelfixing, 10mm	29.5	28.4	26.9	hrs/tonne
418	Beams/Columns, steelfixing, 12mm	23.4	22.4	21.9	hrs/tonne
419	Beams/Columns, steelfixing, 16mm	16.6	15.8	15.1	hrs/tonne
420	Beams/Columns, steelfixing, 20mm	12.4	11.9	11.3	hrs/tonne
421	Beams/Columns, steelfixing, 25mm	9.9	9.2	8.7	hrs/tonne
422	Beams/Columns, steelfixing, 32mm	6.8	6.6	6.2	hrs/tonne
423	Beams/Columns, steelfixing, 40mm	6.1	5.9	5.6	hrs/tonne
424	Beams/Columns, steelfixing, 50mm	6.1	5.9	5.6	hrs/tonne
425	Walls, steelfixing, 6mm	41.2	40.8	39.1	hrs/tonne
426	Walls, steelfixing, 8mm	29.2	28.6	27.4	hrs/tonne
427	Walls, steelfixing, 10mm	22.7	22.0	21.2	hrs/tonne
428	Walls, steelfixing, 12mm	17.6	17.3	16.9	hrs/tonne
429	Walls, steelfixing, 16mm	12.4	12.2	11.8	hrs/tonne
430	Walls, steelfixing, 20mm	9.4	9.2	8.7	hrs/tonne
431	Walls, steelfixing, 25mm	7.4	7.2	7.0	hrs/tonne
432	Walls, steelfixing, 32mm	7.0	6.8	6.4	hrs/tonne
433	Walls, steelfixing, 40mm	6.4	6.1	5.9	hrs/tonne
434	Walls, steelfixing, 50mm	5.3	5.1	4.8	hrs/tonne
435	Staircases, steelfixing, 6mm	48.9	48.0	45.5	hrs/tonne
436	Staircases, steelfixing, 8mm	34.4	33.6	31.9	hrs/tonne
437	Staircases, steelfixing, 10mm	26.6	25.8	24.3	hrs/tonne
438	Staircases, steelfixing, 12mm	20.9	20.4	19.5	hrs/tonne
439	Staircases, steelfixing, 16mm	14.6	14.4	13.8	hrs/tonne
440	Staircases, steelfixing, 20mm	11.3	10.8	10.5	hrs/tonne
441	Staircases, steelfixing, 25mm	8.6	8.4	8.2	hrs/tonne

Concrete Works - Concrete Mixing

Ref	Task / Description	Slow	Ave	Fast	Units
448	Concrete Weight, 1m3	-	2.4	-	Tonnes
449	Readymix Lorry, Length	-	8.3	-	m
450	Readymix Lorry, Width	-	2.5	-	m
451	Readymix Lorry, Height	-	3.7	-	m
452	Readymix Lorry, Length	-	24.4	-	Tonnes
453	Readymix Lorry, Turning Circle	-	16.4	-	m
454	Readymix Lorry, Allowable Access Ramp Gradient	-	17.0	20.0	degrees
455	Mixing Concrete, By Hand	-	0.3	-	m3/hr
456	Mixing Concrete, Single Drum Paddle Mixer	158.0	180.0	210.0	m3/hr
457	Mixing Concrete, Double Drum Paddle Mixer	315.0	370.0	420.0	m3/hr
458	Mixing Concrete, Single Drum Plant Pan Mixer	-	120.0	-	m3/hr
459	Mixing Concrete, Dry Mix Plant	-	90.0	-	m3/hr

Concrete Works - Concrete Placement

Ref	Task / Description	Slow	Ave	Fast	Units
460	Placing concrete, lorry based pump	30.0	40.0	50.0	m3/hr
461	Hollorib Decking, concrete topping	85.0	100.0	120.0	m2/hr
462	Hollorib Decking, concrete topping, incl PowerFloat	40.0	50.0	70.0	m2/hr
463	Placing Concrete, By Wheelbarrow over 1-10m	2.1	2.3	2.5	m3/hr
464	Placing Concrete, By Wheelbarrow over 10-20m	1.5	1.8	2.1	m3/hr
465	Placing Concrete, By Wheelbarrow over 20-50m	0.8	1.1	1.5	m3/hr
466	Placing Direct From Readymix Lorry, Mass Fill	2.8	3.1	3.3	m3/hr
467	Placing Direct From Readymix Lorry, 50mm Blinding	-	1.3	1.6	m3/hr
468	Placing Direct From Readymix Lorry, Ground Beams	1.5	-	1.7	m3/hr
469	Placing Direct From Readymix Lorry, Pile Caps	1.0	1.5	2.3	m3/hr
470	Placing Direct From Readymix Lorry, Duct Walls	-	0.8	1.1	m3/hr
471	Placing Direct From Readymix Lorry, Stub Columns	-	0.4	0.6	m3/hr
472	Placing Direct From Readymix Lorry, Ground Slab	2.1	2.3	2.6	m3/hr
473	Placing Direct From Readymix Lorry, Drains Bed and Cover	-	0.9	1.0	m3/hr
474	Placing From Tower Crane, Pile Caps	1.2	1.4	1.6	m3/hr
475	Placing From Tower Crane, Mass Fill	4.0	4.5	5.5	m3/hr
476	Placing From Tower Crane, Slabs under 150mm thick	0.9	1.3	1.7	m3/hr
477	Placing From Tower Crane, Slabs over 150mm thick	1.2	1.5	1.8	m3/hr
478	Placing From Tower Crane, Trough/Coffered Slabs	0.9	1.1	1.2	m3/hr
479	Placing From Tower Crane, Stairs and Landings	0.6	0.7	0.9	m3/hr
480	Placing From Tower Crane, Blinding	0.8	1.0	1.1	m3/hr
481	Placing From Tower Crane, Beams under 150mm thick	0.5	0.6	0.8	m3/hr
482	Placing From Tower Crane, Beams over 150mm thick	0.6	0.8	1.0	m3/hr
483	Placing From Tower Crane, Walls	0.6	1.1	1.5	m3/hr
484	Placing From Tower Crane, Columns	0.4	0.5	0.6	m3/hr

Concrete Works - Concrete Finishing

Ref	Task / Description	Slow	Ave	Fast	Units
485	Surface Finishing, Steel Float By Hand	9.2	13.9	25.0	m2/hr
486	Surface Finishing, Wood Float By Hand	11.7	17.2	29.4	m2/hr
487	Surface Finishing, Power Float	13.9	20.8	37.0	m2/hr
488	Surface Finishing, Light Brush on Trowel	55.8	90.1	170.0	m2/hr
489	Surface Finishing, Brush on Trowel Margin	28.8	48.5	85.0	m2/hr
490	Surface Finishing, Sprayed By Pump, expose aggregate	65.0	95.0	145.0	m2/hr
491	Surface Finishing, Wire Brush, expose aggregate	15.0	25.0	30.0	m2/hr
492	Making Good Walls, prepare, shutter, pour	-	5.5	8.6	m2/hr
493	Making Good Columns, prepare, shutter, pour	-	2.8	6.9	m2/hr
494	Making Good Sides of Beams, prepare, shutter, pour	-	2.8	7.0	m2/hr
495	Making Good Slab Soffits, prepare, shutter, pour	-	4.2	5.5	m2/hr
496	Making Good Bolt Holes, prepare, shutter, pour	14.8	16.8	25.8	no/hr
497	Making Good Rubdown Precast Concrete, prepare, shutter, pour	-	18.0	-	m2/hr
498	Making Good Scabble 3 head brush hammer, prepare, shutter, pour	30.7	59.5	73.8	hrs/m2

Construction Wet Trades - Screeding

Ref	Task / Description	Slow	Ave	Fast	Units
642	Sand/Cement Floor Screed, 15-20mm thick	-	4.8	5.7	m2/hr
643	Sand/Cement Floor Screed, 20-30mm thick	-	4.6	5.5	m2/hr
644	Sand/Cement Floor Screed, 30-40mm thick	3.2	4.2	5.3	m2/hr
645	Sand/Cement Floor Screed, 40-50mm thick	2.0	3.8	5.2	m2/hr
646	Sand/Cement Floor Screed, 50-65mm thick	-	3.3	3.9	m2/hr
647	Sand/Cement Floor Screed, 65-100mm thick	-	3.0	3.6	m2/hr
648	Fix/Setout Screed Battens	-	10.0	-	m/hr

Water Engineering - Waterproofing

Ref	Task / Description	Slow	Ave	Fast	Units
<u>1181</u>	Asphalt coatings, horizontal surfaces	3.5	4.2	5.8	m2/hr
<u>1182</u>	Asphalt coatings, vertical surfaces	1.2	1.7	2.2	m2/hr
<u>1183</u>	Bituminous Brushed application, 2 coats	4.8	5.0	6.3	m2/hr
<u>1184</u>	Bituminous Brushed application, 3 coats	3.3	3.5	4.4	m2/hr
<u>1185</u>	Bituminous Sheets, horizontal surfaces	3.8	4.0	4.8	m2/hr
<u>1186</u>	Bituminous Sheets, vertical surfaces	3.3	3.5	4.2	m2/hr
<u>1187</u>	Polythene Sheets, horizontal surfaces	-	20.0	-	m2/hr
<u>1188</u>	Bentonite Sheets, horizontal surfaces	18.7	25.0	31.3	m2/hr
<u>1189</u>	Bentonite Sheets, vertical surfaces	11.2	15.0	17.3	m2/hr
<u>1190</u>	Epoxy Based application, 1 coat	-	75.0	-	m2/hr
<u>1191</u>	Epoxy Based application, 2 coat	-	38.0	-	m2/hr

Sealant & Caulking

	Task / Description	Slow	Ave	Fast	Units
	Backer rod 1cm to 2.5cm wide	-	140	-	m/day
	Caulking Copound,oil Base 1 X 1 cm	-	80	-	m/day
	Caulking Copound,oil Base 1.5 X 1.5 cm	-	70	-	m/day
	Caulking Copound,oil Base up to 2.5 X 2.5 cm	-	54	-	m/day
	Butyl Based Cartridge	54		70	m/day
	Latix acrylic Based Cartridge	-	42	-	m/day
	Polyurethane 1 or 2 componant	-	40	-	m/day
	Silicon Rubber Cartridge/Neoprene	50	60	75	m/day

Roof Structures and Coverings - Roof Insulation

Ref	Task / Description	Slow	Ave	Fast	Units
<u>541</u>	Polystyrene Boards	-	8.5	-	m2/hr
<u>542</u>	Glass Fibre, low pitch	-	12.0	-	m2/hr
<u>543</u>	Glass Fibre, steep pitch	-	19.0	-	m2/hr

Slates and Tiling

	Task / Description	Slow	Ave	Fast	Units
	Slate Roofs, Welsh Slate 3-5mm	-	18.0	-	m2/day
	Slate Roofs, Cumbrian Slate 8-11mm	-	8.5	-	m2/day
	Slate Roofs, Asbestos Slates	-	36.0	-	m2/day
	Tiled Roofs, Concrete Tiles	-	52.0	-	m2/day
	Tiled Roofs, Clay Pan Tiles	-	26.0	-	m2/day

Flat and Layered Roofs

	Task / Description	Slow	Ave	Fast	Units
	Asphalt Roof in layers	-	45.0	-	m2/day
	Asbestos Sheets in layers	-	39.0	-	m2/day
	Felt Roofs, large areas	-	52.0	-	m2/day
	Felt Roofs, small or complicated	-	35.0	-	m2/day
	Felt Roofs, Gravel roof chippings	-	1.4	-	Tons/day

Construction Wet Trades - Brickwork

Ref	Task / Description	Slow	Ave	Fast	Units
593	English Bond, 0.5 Brick thick	0.7	0.8	1.1	m2/hr
594	English Bond, 1.0 Brick thick	0.6	0.8	0.9	m2/hr
595	English Bond, 1.5 Brick thick	0.4	0.5	0.6	m2/hr
596	English Bond, 2.0 Brick thick	0.3	0.4	0.5	m2/hr
597	Flemish Bond, 0.5 Brick thick	0.8	0.9	1.2	m2/hr
598	Flemish Bond, 1.0 Brick thick	0.6	0.7	0.9	m2/hr
599	Flemish Bond, 1.5 Brick thick	0.3	0.8	1.0	m2/hr
600	Flemish Bond, 2.0 Brick thick	0.3	0.4	0.5	m2/hr
601	Flemish Garden Wall Bond, 0.5 Brick thick	0.8	1.2	1.4	m2/hr
602	English Garden Wall Bond, 0.5 Brick thick	0.8	1.0	1.3	m2/hr
603	Stretcher Bond, 0.5 Brick thick	1.0	1.3	1.6	m2/hr
604	Building in Metal Door Frame	0.5	0.5	0.3	hrs/no
605	Building in Metal Window	0.6	0.5	0.4	hrs/no
606	Building in Wood Door Frame	0.4	0.3	0.2	hrs/no
607	Building in Wood Window	0.6	0.5	0.4	hrs/no
608	Building Brick on Edge Coping	-	3.7	-	hrs/m
609	Building Brick on Edge Canted Cills	-	1.8	-	hrs/m
610	Pointing to Frames	12.4	15.4	17.8	hrs/m
611	Bitumen DPC, horizontal under 100mm wide	-	2.9	-	m2/hr
612	Bitumen DPC, horizontal 100-255mm wide	-	9.1	-	m2/hr
613	Bitumen DPC, horizontal over 255mm wide	-	14.3	-	m2/hr
614	Bitumen DPC, vertical under 100mm wide	-	5.8	-	m2/hr
615	Bitumen DPC, vertical 100-225mm wide	-	7.8	-	m2/hr
616	Bitumen DPC, vertical over 225mm wide	-	10.0	-	m2/hr
617	Reinforcement ExMet, horizontal under 100mm wide	-	5.8	-	m2/hr
618	Reinforcement ExMet, horizontal over 100mm wide	-	9.1	-	m2/hr
619	Reinforcement ExMet, vertical under 100mm wide	-	3.8	-	m2/hr
620	Reinforcement ExMet, vertical over 100mm wide	-	5.8	-	m2/hr
621	Face Finish as work Proceeds, Raking Out	26.3	27.8	29.4	m2/hr
622	Face Finish as work Proceeds, Flush and Rubbed	4.2	4.3	4.5	m2/hr
623	Face Finish as work Proceeds, Struck Pointing	2.8	3.0	3.1	m2/hr
624	Face Finish as work Proceeds, Bag Rubbed	-	1.1	-	m2/hr
625	Face Finish as work Proceeds, Bucket Handle	5.4	5.6	5.8	m2/hr
626	Face Finish as work Proceeds, Recessed 5-10mm	4.2	4.7	4.9	m2/hr
627	Face Finish after completion, Flush and Rubbed	1.9	2.0	2.1	m2/hr
628	Face Finish after completion, Struck Pointing	-	1.3	1.2	m2/hr
629	Face Finish after completion, Bucket Handle	2.5	2.7	2.9	m2/hr

Blockwork

	Task / Description	Slow	Ave	Fast	Units
	Thermalite Blockwork, under 100mm thick	1.8	2.5	3.2	m2/hr
	Thermalite Blockwork, under 100-150mm thick	1.4	1.9	2.5	m2/hr
	Thermalite Blockwork, over 150mm thick	1.2	1.6	2.1	m2/hr
	Lightweight Concrete Blockwork, under 100mm thick	1.5	2.2	2.9	m2/hr
	Lightweight Concrete Blockwork, under 100-150mm thick	1.4	1.9	2.1	m2/hr
	Lightweight Concrete Blockwork, over 150mm thick	1.2	1.6	2.0	m2/hr
	Heavyweight Concrete Blockwork, under 100mm thick	1.4	2.1	2.9	m2/hr
	Heavyweight Concrete Blockwork, under 100-150mm thick	1.2	1.6	2.1	m2/hr
	Heavyweight Concrete Blockwork, over 150mm thick	1.1	1.4	1.8	m2/hr
	Face Finish, Raked Out	-	71.4	-	m2/hr
	Face Finish, Bag Rubbed	-	29.4	-	m2/hr
	Face Finish, Flush Pointing	-	17.6	-	m2/hr
	Common Brick 10x6x20, 10cm thick also if reinf.	-	2.5	-	m2/hr
	Common Brick 10x6x20, 20cm thick also if reinf.	-	1.6	-	m2/hr
	Common Brick 10x6x20, 30cm thick also if reinf.	-	1	-	m2/hr
No Scaf.	Concrete or Glazed Block 20x40, 10 or 15 cm thick, reinf. Or not.	-	5	-	m2/hr
No Scaf.	Concrete or Glazed Block 20x40, 20 cm thick, reinf. Or not.	-	4.4	-	m2/hr
No Scaf.	Concrete or Glazed Block 20x40, 25 or 30 cm thick, reinf. Or not.	-	4.2	-	m2/hr
		-		-	m2/hr
		-		-	m2/hr
		-		-	m2/hr

Construction Wet Trades - Plastering					
Ref	Task / Description	Slow	Ave	Fast	Units
	Plaster Aligning and lathes (Straight,level,true & Plumb)Gypsum Dabs		18		m2/hr
	Plastering Spatter		12.5		m2/hr
1Coat	Plastering Walls, 1 Bonding, 1 Skimming		4.6		m2/hr
	Plastering Walls, Topcoat Skimming		4.6		m2/hr
	Plastering Ceilings, 1 Bonding, 1 Skimming		4		m2/hr
	Plastering Ceilings, Topcoat Skimming		4		m2/hr
654	Browning (undercoat), Internal Walls under 2.5m high	2.2	2.8	3.1	m2/hr
655	Browning (undercoat), Internal Walls over 2.5m high	2.1	2.6	2.8	m2/hr
656	Browning (undercoat), Reveals and Columns less than 100mm wide	9.9	10.0	10.1	m2/hr
657	Browning (undercoat), Reveals and Columns 100-200mm wide	5.2	5.4	6.4	m2/hr
658	Browning (undercoat), Reveals and Columns 200-300mm wide	3.3	3.6	3.9	m2/hr
659	Covings	-	5.0	-	m/hr
660	Skimming (topcoat), Internal Walls under 2.5m high	6.1	6.7	7.3	m2/hr
661	Skimming (topcoat), Internal Walls over 2.5m high	5.5	6.1	6.7	m2/hr
662	Skimming (topcoat), Reveals and Columns less than 100mm wide	12.6	13.8	15.4	m2/hr
663	Skimming (topcoat), Reveals and Columns 100-200mm wide	7.7	8.3	9.8	m2/hr
664	Skimming (topcoat), Reveals and Columns 200-300mm wide	4.5	5.0	5.5	m2/hr
665	Plaster Board to Ceilings	3.2	4.5	5.5	m2/hr
666	Plastering Ceilings, 1 Bonding, 1 Skimming	1.1	1.7	2.4	m2/hr
667	Plastering Ceilings, Topcoat Skimming	2.7	3.2	5.4	m2/hr

Plasterboard					
	Task / Description	Slow	Ave	Fast	Units
	Boarding to Plaster dabs	3.6	4.0	5.5	m2/hr
	Boarding to Stud-work/Metal Lathes	4.0	5.0	6.7	m2/hr
	Boarding 12mm nailed to studding	-	12.5	-	m2/hr
	Boarding 19mm nailed to studding	-	16.5	-	m2/hr
	Tape, Jointing and Sanding	-	0.1	-	hrs/m

Architectural Builders Work and Finishes - Painting

Ref	Task / Description	Slow	Ave	Fast	Units
841	Prepare Walls	-	14.2	-	m2/hr
842	Prepare Doors	-	12.5	-	m2/hr
843	Prepare Door Frames	-	25.0	-	m/hr
844	Burn Off / Heat Strip Paintwork	-	1.1	-	m2/hr
845	Internal Timber, 1 coat primer before fixing, generally	-	6.7	-	m2/hr
846	Internal Timber, 1 coat primer before fixing, timber lengths	-	20.0	-	m/hr
847	Internal Timber, knot, 1 primer, stop, 1 undercoat, 1 gloss	-	1.7	2.1	m2/hr
848	Internal Timber, touchup primer, 1 undercoat, 1 coat gloss	-	3.1	3.8	m2/hr
849	Internal Timber, polyurethane varnish, 2 coats	-	3.3	-	m2/hr
850	Internal Timber, polyurethane varnish, 3 coats	-	2.2	-	m2/hr
851	Internal Timber, linseed oil to hardwood, 2 coats	-	3.6	-	m2/hr
852	External Timber, windows and frames	-	2.4	-	m2/hr
853	External Timber, knot, 1 primer, 2 undercoats, 1 coat gloss,	-	1.5	-	m2/hr
854	External Timber, touchup primer, 2 undercoats, 1 coat gloss,	-	2.0	-	m2/hr
855	External Timber, 2 coats wood preservative	-	4.0	-	m2/hr
856	External Timber, 3 coats polyurethane varnish	-	2.0	-	m2/hr
857	Internal Walls, 2 coats emulsion to plaster	-	8.0	-	m2/hr
858	Internal Walls, 2 coats emulsion to brick/blockwork	-	6.0	-	m2/hr
859	Internal Walls, 1 mist, 2 coats emulsion to plaster	-	6.0	-	m2/hr
860	Internal Walls, 1 mist, 2 coats emulsion to brick/blockwork	-	4.5	-	m2/hr
861	Internal Walls, 1 primer, 1 undercoat, 1 gloss to plaster	-	2.3	-	m2/hr
862	Internal Walls, undercoat to door frame	-	20.0	-	m/hr
863	Internal Walls, gloss to door frame	-	16.5	-	m/hr
864	Internal Walls, undercoat to door	-	7.1	-	m2/hr
865	Internal Walls, gloss to door	-	6.2	-	m2/hr
866	External Walls, 2 coats sandtex to render/concrete	-	2.5	-	m2/hr
867	External Walls, 2 coats sandtex to brick/blockwork	-	2.0	-	m2/hr
868	External Walls, 1 sealer, 2 emulsion to render/concrete	-	2.0	-	m2/hr
869	External Walls, 1 sealer, 2 emulsion to brick/blockwork	-	1.7	-	m2/hr
870	Floors, epoxy paint	-	2.9	-	m2/hr
871	Ceilings, emulsion paint, 2 coats	-	6.1	-	m2/hr
872	Ceilings, emulsion paint, 3 coats	-	5.0	-	m2/hr
873	Ceilings, textured paint	-	4.2	-	m2/hr
874	Ceilings, artex finish	-	4.1	-	m2/hr
875	Internal Steelwork, 1 primer, 1 undercoat, 1 gloss	1.3	2.4	-	m2/hr
876	External Steelwork, 1 primer, 2 undercoats, 1 gloss	0.9	1.7	-	m2/hr
877	Guttering Steelwork, 1 coat primer, 2 undercoats, 1 gloss	-	2.5	-	m/hr

Bridge Works - Paintwork

Ref	Task / Description	Slow	Ave	Fast	Units
966	Simple Universal Beam Steel Bridge, paintwork to all steel	-	6.9	-	m/day

Architectural Builders Work and Finishes - Floor Finishes

Ref	Task / Description	Slow	Ave	Fast	Units
<u>691</u>	Granolithic Flooring	-	3.1	-	m2/hr
<u>692</u>	Terrazzo Flooring, in-situ	-	3.6	-	m2/hr
<u>693</u>	Terrazzo Flooring, pre-cast	-	4.6	5.1	m2/hr
<u>694</u>	Mosaic Tiling, 0.045x0.045m	-	1.5	2.2	m2/hr
<u>695</u>	Clay, quarry Tiles, small areas, much cutting	-	0.8	1.1	m2/hr
<u>696</u>	Clay, quarry Tiles, large areas, little cutting	-	2.2	2.8	m2/hr
<u>697</u>	Raised Floor System	-	2.6	-	m2/hr
<u>698</u>	Linolium/Thermo-Plastic Flooring	-	3.1	5.0	m2/hr
<u>699</u>	Thermo-Plastic Floor Tiles	-	3.3	5.6	m2/hr
<u>700</u>	Wood Block Flooring, lay blocks	-	1.5	2.1	m2/hr
<u>701</u>	Wood Block Flooring, sand and polish	-	3.1	-	m2/hr
<u>702</u>	Carpeting, Underlay & Gripper	-	5.6	6.1	m2/hr
<u>703</u>	Carpeting, Adhesive Fixing	-	3.5	4.2	m2/hr
<u>704</u>	Carpeting, Fully Fitted	-	2.0	2.8	m2/hr
<u>705</u>	Hardboard Sheeting Coverings, small areas	-	3.7	4.1	m2/hr
<u>706</u>	Hardboard Sheeting Coverings, large areas	-	6.6	7.2	m2/hr
<u>707</u>	Floor Sheeting Coverings, Lay Lino	-	9.5	10.5	m2/hr

Architectural Builders Work and Finishes - Wall Finishes					
Ref	Task / Description	Slow	Ave	Fast	Units
<u>708</u>	Mosaic Tiling, 0.045x0.045m	-	1.1	1.5	no/hr
<u>709</u>	Clay, quarry Tiles, Window Cills, setout and level	-	55.5	-	m/hr
<u>710</u>	Clay, quarry Tiles, Window Cills, fix, grout and clean	-	1.5	-	m ² /hr
<u>711</u>	Ceramic Tiles 150x150mm, Ledges/Upstands	20.4	27.1	32.0	no/hr
<u>712</u>	Ceramic Tiles 150x150mm, Areas under 1.5m ² per room	0.9	1.0	1.2	m ² /hr
<u>713</u>	Ceramic Tiles 150x150mm, Areas of 1.5-2.5m ² per room	1.4	1.6	1.9	m ² /hr
<u>714</u>	Ceramic Tiles 150x150mm, Areas over 2.5m ² per room	1.5	1.7	2.1	m ² /hr
<u>715</u>	Ceramic Tiles 150x150mm, Extra Over for Cutting	-	41.6	-	no/hr
<u>716</u>	Ceramic Tiles 108x108mm, Ledges/Upstands	-	62.5	-	no/hr
<u>717</u>	Ceramic Tiles 108x108mm, Areas under 1.5m ² per room	1.0	1.3	1.5	m ² /hr
<u>718</u>	Ceramic Tiles 108x108mm, Areas of 1.5-2.5m ² per room	1.6	1.8	2.1	m ² /hr
<u>719</u>	Ceramic Tiles 108x108mm, Areas over 2.5m ² per room	1.7	1.9	2.2	m ² /hr
<u>720</u>	Ceramic Tiles 108x108mm, Extra Over for Cutting	-	125.0	-	no/hr
<u>721</u>	Ceramic Tiles, Grouting Works	2.2	2.5	2.6	m ² /hr

Architectural Builders Work and Finishes - Ceiling Finishes

Ref	Task / Description	Slow	Ave	Fast	Units
722	Suspended Ceilings, office situations	-	2.6	3.5	m2/hr
723	Suspended Ceilings, First Fix	-	0.7	-	m2/hr
724	Suspended Ceilings, Second Fix	-	1.2	-	m2/hr

Partitioning

	Task / Description	Slow	Ave	Fast	Units
	Timber Studding	5.9	6.2	6.8	m/hr
	Metalwork System (MF) Studding	1.6	2.0	2.5	m2/hr
	Tape, Joint Sand and Top Coat Plasterboard	1.1	1.5	2.1	m2/hr
	Skimming to Plasterboards	5.5	6.1	6.7	m2/hr
	5mm Hardboard Paneling , excluding studding time	-	3.2	3.6	m2/hr
	100mm Pine Paneling , excluding studding time	0.8	1.1	1.4	m2/hr
	Quality Hardwood Paneling, excluding studding time	0.3	0.5	0.6	m2/hr
	Fix 50mm Rocksil Insulation to cavities	-	17.8	20.2	m2/hr
	Fix Timber Studding and Paramount Partitions	2.6	3.0	3.4	m2/hr
	Fix Timber Studding and Demountable Partitions	0.8	1.1	1.6	m2/hr
	Fix Timber Studding and Hills Duraboard Partitions	3.0	3.5	3.9	m2/hr
	Fix Timber Studding and Gyproc Laminated Partitions	2.2	2.6	2.9	m2/hr
	Stud Partitions, Butt Jointed, nailed	5.9	7.3	9.1	m/hr
	Stud Partitions, Butt Jointed, screwed	3.5	4.6	5.8	m/hr
	Stud Partitions, T&G Jointed, nailed	2.9	3.6	4.8	m/hr
	Stud Partitions, T&G Jointed, screwed	2.1	2.8	3.7	m/hr
	Stud Partitions, Fix Sole Plates	-	11.1	-	m/hr
	Stud Partitions, Fix Noggins	-	16.6	-	m/hr
	Stud Partitions, Drill 25-40mm Holes	-	28.5	-	no/hr
	Fix Toilet Partition System, Separation panels	-	0.8	-	hrs/no
	Fix Toilet Partition System, Wall Front Panels	-	0.7	-	hrs/no
	Fix Toilet Partition System, Separation Front Panels	-	0.6	-	hrs/no
	Fix Toilet Partition System, End Front Panels	-	0.6	-	hrs/no
	Fix Toilet Partition System, Hang Door to Panel	-	0.4	-	hrs/no
	Fix Toilet Partition System, Hand Door plugged to wall	-	0.6	-	hrs/no
	Fix Toilet Partition System, Fix Head Rails	-	0.1	-	hrs/no

Curtain Walling

	Task / Description	Slow	Ave	Fast	Units
	Vertical Glazed Lights, 6m x 2.5m	-	14.5	-	m2/day
	Vertical Glazed Walls, large scale	-	70.0	-	m2/day
	Clerestory Frame/Glazing, 3m x 4m	-	28.0	-	m2/day
	Oriel Window Frame /Glazing, 4m x 2m	-	35.0	-	m2/day
	Glazed Curtain Wall, First Fix	-	1.2	-	m2/hr
	Glazed Curtain Wall, Second Fix	-	1.1	-	m2/hr
	High Quality Glazed Curtain Walling	-	25.0	-	m2/day

Stonework

	Task / Description	Slow	Ave	Fast	Units
	Fix 0.5m2 Stones to Metal Support Frame	5.6	7.0	7.8	m2/day
	Fix 0.5-0.75m2 Stones to Metal Support Frame	7.2	9.0	10.1	m2/day
	Fix 0.75-1.0m2 Stones to Metal Support Frame	6.9	8.7	9.7	m2/day
	Fix Complex Stonework to Metal Support Frame	-	1.8	-	m2/day
	Fix Curved Stone Cladding	6.9	8.0	9.2	m2/day
	Fix Stone Edge Beams/Window Reveals	-	2.3	3.2	m2/day
	Fix Stone Soffits	-	4.0	-	m2/day
	Stone Floors	6.9	10.4	12.2	m2/day
	Granite Wall Panels, First Fix	-	1.3	-	m2/hr
	Granite Wall Panels, Second Fix	-	1.1	-	m2/hr

Wallpapering

	Task / Description	Slow	Ave	Fast	Units
	Strip Existing Wallpaper (3 layers) & Prepare Walls	-	5.0	-	m2/hr
	Fix Wallpaper and lining paper	-	5.0	-	m2/hr
	Fix Vinyl and Washable paper	-	4.2	-	m2/hr
	Fix Ceiling Lining Paper	-	4.0	-	m2/hr

Doors and Windows					
	Task / Description	Slow	Ave	Fast	Units
	Mastic Pointing to Frames	-	9.5	-	m/hr
	Fix Metal and Timber Windows After Wall Complete	-	2.0	-	m2/hr
	Window Glazing	-	1.3	-	m2/hr
	Window Glazing, Single Glazed Units	-	2.0	-	m2/hr
	Window Glazing, Double Glazed Units	-	1.3	-	m2/hr

Carpentry Carcassing					
	Task / Description	Slow	Ave	Fast	Units
	Windows, Timber Frames for Bricklaying	1.1	0.5	0.1	hrs/no
	Windows, Drill, Screw & Plug extra over	0.3	0.1	-	hrs/no
	Door Frames, Softwood, 1.0-3.0m2	-	0.2	-	hrs/no
	Door Frames, Softwood, 3.0-7.0m2	0.5	0.4	-	hrs/no
	Door Frames, Softwood, 7.0-10.0m2	1.2	0.8	-	hrs/no
	Door Frames, Hardwood, 1.0-3.0m2	-	0.3	-	hrs/no
	Door Frames, Hardwood, 3.0-7.0m2	0.6	0.3	-	hrs/no
	Door Frames, Hardwood, 7.0-10.0m2	1.4	1.0	-	hrs/no
	Erect Water Tank Platform	-	2.3	-	no/hr
	Fix Studding For Bath	-	0.1	-	hrs/m
	Cut Access Hatch	-	0.3	-	no/hr
	Floor Joists, under 3m	9.0	9.6	11.6	no/hr
	Floor Joists, 3.0-4.5m	6.8	7.2	9.7	no/hr
	Floor Joists, 4.5-6.0m	5.5	5.8	7.3	no/hr
	Ceiling Joists, under 3m	12.8	14.0	14.7	no/hr
	Ceiling Joists, 3.0-4.5m	10.8	12.1	12.6	no/hr
	Ceiling Joists, 4.5-6.0m	9.6	10.8	11.1	no/hr
	Ceiling Joists, Notch to Beams	20.0	25.0	28.5	no/hr
	Ceiling Joists, Pack Joist Ends	20.1	23.8	26.3	no/hr
	Ceiling Joists, Nailing Joists together	-	23.0	-	m/hr
	Ceiling Joists, Bolting Joists Together	-	12.6	-	m/hr
	Floor Boards, Butt Jointed	-	1.7	-	m2/hr
	Floor Boards, T&G Boards, under 75mm wide	-	3.4	-	m2/hr
	Floor Boards, T&G Boards, 75-100mm wide	-	3.8	-	m2/hr
	Floor Boards, T&G Boards, 100-125mm wide	-	4.2	-	m2/hr
	Floor Boards, T&G Boards, 125-150mm wide	-	5.5	-	m2/hr
	Plywood Sheeting, Butt Jointed, nailed	-	9.1	10.2	m2/hr
	Plywood Sheeting, Butt Jointed, screwed	-	4.1	4.8	m2/hr
	Plywood Sheeting, T&G Jointed, nailed	-	8.3	9.1	m2/hr
	Plywood Sheeting, T&G Jointed, screwed	-	4.0	4.6	m2/hr
	Chipboard Sheeting, Butt Jointed, nailed	-	10.0	11.5	m2/hr
	Chipboard Sheeting, Butt Jointed, screwed	-	5.1	5.8	m2/hr
	Chipboard Sheeting, T&G Jointed, nailed	-	9.3	9.1	m2/hr
	Chipboard Sheeting, T&G Jointed, screwed	-	5.5	5.9	m2/hr

Carpentry Final Fixing					
	Task / Description	Slow	Ave	Fast	Units
	Windows, Softwood, 3.0-7.0m2	0.6	0.4	0.3	hrs/no
	Windows, Softwood, 7.0-10.0m2	1.3	0.9	0.6	hrs/no
	Windows, Hardwood, 1.0-3.0m2	0.4	0.3	-	hrs/no
	Windows, Hardwood, 3.0-7.0m2	0.7	0.5	0.4	hrs/no
	Windows, Hardwood, 7.0-10.0m2	1.6	1.2	0.7	hrs/no
	Windows, Aluminum, 1.0-3.0m2	0.2	0.3	-	hrs/no
	Windows, Aluminum, 3.0-7.0m2	0.5	0.4	0.3	hrs/no
	Windows, Aluminum, 7.0-10.0m2	1.2	0.8	0.5	hrs/no
	Windows, Steel, 1.0-3.0m2	0.4	0.3	0.2	hrs/no
	Windows, Steel, 3.0-7.0m2	1.2	0.6	0.5	hrs/no
	Windows, Steel, 7.0-10.0m2	1.4	1.2	1.0	hrs/no
	Window Boards, nailed	-	0.3	0.2	hrs/m
	Window Boards, screwed	-	0.4	0.3	hrs/m
	Mouldings, Softwood, Nailed	-	6.3	8.5	m/hr
	Mouldings, Softwood, Screwed	-	4.6	5.6	m/hr
	Mouldings, Softwood, Gun Nailed	-	8.2	11.1	m/hr
	Mouldings, Hardwood, Nailed	-	3.3	5.5	m/hr
	Mouldings, Hardwood, Screwed	-	2.4	3.7	m/hr
	Mouldings, Hardwood, Gun Nailed	-	8.5	11.3	m/hr
	Skirting, Aluminum, Screwed 150-300mm centres	-	7.6	-	m/hr
	Skirting, Aluminum, Screwed 300-450mm centres	-	4.5	-	m/hr
	Skirting, Plastic, Adhesive Fixing	-	8.6	-	m/hr
	Architrave Mouldings	9.5	12.2	18.2	m/hr
	Architrave, Fix to Doors	-	1.2	-	hrs/door
	Door Stop Mouldings	10.1	16.9	25.0	m/hr
	Glazed Bead Mouldings	15.5	18.6	20.4	m/hr
	Hanging Doors, Softwood, Single Pair Butts	1.3	0.9	0.6	hrs/no
	Hanging Doors, Hardwood, Single Pair Butts	1.9	1.2	0.9	hrs/no
	Cut Mortice to Receive Lock, Softwood	-	0.2	-	hrs/no
	Cut Mortice to Receive Lock, Hardwood	-	0.6	-	hrs/no
	Cut & Fix Formica Bath Panel	-	0.4	-	hrs/no
	Kitchen Cupboards, Floor Units	-	0.8	0.6	hrs/no
	Kitchen Cupboards, Wall Units	-	0.7	0.5	hrs/no
	Kitchen Cupboards, Shelf Units	-	0.8	0.7	hrs/no
	Staircase, pre-made, simple, straight flight	1.9	1.5	1.1	hrs/no
	Staircase, pre-made, 2 straight flights, 1 landing	3.7	2.9	2.6	hrs/no
	Staircase, pre-made, 2 straight flights, 2 landings	-	6.3	-	hrs/no
	Staircase, Balustrades/Handrails, fix horizontal	1.2	0.6	0.1	hrs/no
	Staircase, Balustrades/Handrails, fix raking	0.9	0.5	0.3	hrs/no
	Staircase, Cut and Fix Newel to Walls	0.9	-	0.2	hrs/no
	Windows, Softwood, 1.0-3.0m2	0.3	0.2	-	hrs/no
	Raised Flooring, metal system	-	0.5	-	m2/hr

Timber Frames

	Task / Description	Slow	Ave	Fast	Units
	Roof Trusses	-	1.3	-	no/hr
	Wall Plates	-	2.7	-	m/hr
	Roof Rafters	-	1.2	-	m/hr
	Ceiling Joists	-	32.1	-	m/hr
	Roof Carcass, Common Rafters, under 3m	18.2	20.0	21.7	no/hr
	Roof Carcass, Common Rafters, 3-6mm	13.3	16.6	18.2	no/hr
	Roof Carcass, Common Rafters, over 6m	14.1	15.6	16.1	no/hr
	Roof Carcass, Jack Rafters, under 3m	18.8	20.1	21.7	no/hr
	Roof Carcass, Jack Rafters, 3-6mm	10.4	16.1	16.6	no/hr
	Roof Carcass, Purlins, under 3m	5.1	5.4	5.8	no/hr
	Roof Carcass, Purlins, 3-6mm	4.3	4.8	5.1	no/hr
	Roof Carcass, Purlins, over 6m	3.5	4.3	4.6	no/hr
	Roof Carcass, Binders, under 3m	5.7	6.6	7.6	no/hr
	Roof Carcass, Binders, 3-6mm	2.1	2.3	2.5	no/hr
	Roof Carcass, Binders, over 6m	1.3	1.5	1.6	no/hr
	Roof Carcass, Hangers, under 3m	8.2	9.0	9.6	no/hr
	Roof Carcass, Collars under 3m	7.6	8.0	9.1	no/hr
	Roof Carcass, Collars 3-m	6.5	7.4	8.3	no/hr
	Roof Carcass, Ridge Boards under 3m	12.0	13.1	15.3	no/hr
	Roof Carcass, Cut Rafter Feet to line	142.0	166.0	175.0	no/hr
	Roof Soffits, Softwood, nailed	-	9.2	-	m/hr
	Roof Soffits, Softwood, screwed	-	3.9	-	m/hr
	Roof Soffits Asbestos, under 300mm nailed	-	9.1	-	m/hr
	Roof Soffits Asbestos, under 300mm screwed	-	3.8	-	m/hr
	Roof Soffits, Asbestos, over 300mm nailed	-	3.5	-	m/hr
	Roof Soffits, Asbestos, over 300mm screwed	-	1.3	-	m/hr
	Roof Facia Panels, Softwood	5.1	7.2	9.3	m/hr
	Roof Facia Panels, Asbestos	1.3	2.5	3.9	m/hr
	Roof Facia Panel Studding, nailed	7.3	8.1	9.0	m/hr
	Roof Facia Panel Studding, screwed	4.6	5.2	5.8	m/hr
	Roof Facia Panel Studding, bolted to beams	5.4	5.9	6.6	m/hr
	Roof Works, Fix Herringbone Strutting	-	5.1	-	m/hr
	Roof Works, Fix Firing Strips	-	25.0	-	m/hr
	Roof Works, Fix Drip/Tilt Filleting	-	20.5	-	m/hr

Steel Frames					
	Task / Description	Slow	Ave	Fast	Units
	Steel Frame and Roof Members	3.4	-	4.6	Tons/day
	Wall Frame, Bow String Truss and Frame	-	1.6	-	Tons/day
	Roof Frame, Curved Truss and Frame	-	5.2	-	Tons/day
	Wall Frame, Glazed Frame and Atrium	-	0.3	-	Tons/day

Structural Steelwork					
	Task / Description	Slow	Ave	Fast	Units
	Simple Universal Beam Steel Bridge, erect support steel H frames	-	1.2	-	days/no
	Simple Universal Beam Steel Bridge, erect 15m truss	-	3.3	-	m/day

Steel Strutting					
	Task / Description	Slow	Ave	Fast	Units
	Horizontal heavy duty strutting	-	2.0	-	days/no
	Diagonal heavy duty strutting	-	6.0	-	days/no

Metal Decking					
	Task / Description	Slow	Ave	Fast	Units
	Metal Decking, large areas	-	70.0	-	m ² /day
	Metal Decking, small or complicated	-	28.0	-	m ² /day
	Titanium Sheeted Roofs	-	9.5	-	m ² /day
	Copper Roofs, flat work	-	3.0	-	m ² /day
	Copper Roofs, sloping work	-	2.7	-	m ² /day
	Zinc Roofs, flat work	-	2.4	-	m ² /day
	Zinc Roofs, sloping work	-	2.1	-	m ² /day
	Aluminium Roofs, flat work	-	2.8	-	m ² /day
	Aluminium Roofs, sloping work	-	1.9	-	m ² /day
	Lead Roofs, flat work	-	2.5	-	m ² /day
	Lead Roofs, sloping work	-	2.1	-	m ² /day
	Lead Roofs, dormer cheeks	-	1.3	-	m ² /day
	Lead Roofs, flat gutters	-	88.0	-	m/day
	Lead Roofs, flat copings	-	76.0	-	m/day
	Lead Roofs, stepped gutters	-	3.5	-	m/day
	Lead Roofs, shaped copings	-	3.3	-	m/day
	Lead Roofs, cover step flashings	-	3.2	-	m/day
	Lead Roofs, rooflight flashings	-	0.8	-	no/day
	Lead Roofs, domed roof coverings	-	0.7	-	m ² /day

Sheeted Roofs					
	Task / Description	Slow	Ave	Fast	Units
	PVC Sheeted Roofs, large areas	-	50.0	-	m ² /day
	PVC Sheeted Roofs, small areas	-	40.0	-	m ² /day
	Plastic Profiled Sheet Systems	-	54.0	-	m ² /day

Bridge Works - Finishes					
Ref	Task / Description	Slow	Ave	Fast	Units
968	Simple Universal Beam Steel Bridge, bridge lighting, handrails etc	-	17.0	-	m/day

Structural Frames - Finishes					
Ref	Task / Description	Slow	Ave	Fast	Units
1236	Grit Blasting to structural steel frames, standard to SA2.5	60.0	80.0	100.0	m ² /12hours

Pathroom Works					
	Task / Description	Slow	Ave	Fast	Units
	Water Supply Internal Pipes		2		m/hr
	Water Supply Internal Pipes		0.5		Path/day
	Drainage Internal Pipes		1		Path/day
	Water sink with faucets		2		pcs/day
	Toilets one piece / Bidets		3		pcs/day
	Toilets tow piece		2		pcs/day
	Tubs		1		pcs/day
	shower Bases		2		pcs/day
	Floor drain or Cleanout 2" to 4"	6	8	10	pcs/day
					pcs/day
	Val water pipes		1.5		m/hr
	Val Drainage pipes		2		m/hr

Plumbing and Drainage					
	Task / Description	Slow	Ave	Fast	Units
	Railway Station 1st Fix	-	30.0	-	wks
	Railway Station 2nd Fix	-	6.0	-	wks
	Railway Station T&C	-	8.0	-	wks
	Cast Iron TimeSaver 100mm Pipes	-	1.2	-	m/hr
	Cast Iron TimeSaver 100mm Bends	-	1.3	-	hrs/no
	Cast Iron TimeSaver 100mm Branches	-	2.2	-	hrs/no
	Cast Iron TimeSaver 100mm Double Branches	-	2.5	-	hrs/no
	Cast Iron Spigot Joint Pipes , 100mm	-	1.1	-	m/hr
	Cast Iron Spigot Joint Pipes , 150mm	-	0.8	-	m/hr
	Cast Iron Spigot Joint Pipes , 225mm	-	0.5	-	m/hr
	Cast Iron Spigot Joint Pipes , 300mm	-	0.4	-	m/hr
	Water Mains, 50-100mm dia	-	2.7	-	m/hr
	Water Mains, 150-200mm dia	-	2.1	-	m/hr
	Water Mains, 1,050mm dia	-	0.4	-	m/hr
	Gas Mains, 200mm dia	-	1.8	-	m/hr
	Gas Mains, 300mm dia	-	1.2	-	m/hr
	Gas Mains, 400mm dia	-	1.1	-	m/hr

Land Drains					
	Task / Description	Slow	Ave	Fast	Units
	Land Drains, Concrete, butt jointed , under 150mm dia, 0-5m run	-	11.6	-	m/hr
	Land Drains, Concrete, butt jointed , under 150mm dia, 5-30m run	-	14.1	-	m/hr
	Land Drains, Concrete, butt jointed , under 150mm dia, over 30m run	-	18.8	-	m/hr
	Land Drains, Concrete, butt jointed , 150-225mm dia, 0-5m run	-	8.4	-	m/hr
	Land Drains, Concrete, butt jointed , 150-225mm dia, 5-30m run	-	10.2	-	m/hr
	Land Drains, Concrete, butt jointed , 150-225mm dia, over 30m run	-	11.9	-	m/hr
	Land Drains, Concrete, butt jointed , 225-300mm dia, 0-5m run	-	5.4	-	m/hr
	Land Drains, Concrete, butt jointed , 225-300mm dia, 5-30m run	-	6.5	-	m/hr
	Land Drains, Concrete, butt jointed , 225-300mm dia, over 30m run	-	7.9	-	m/hr

Drainage					
	Task / Description	Slow	Ave	Fast	Units
	PVC Drainage , 1m pipes, 100-150mm dia, 0-5m run	-	5.7	-	m/hr
	PVC Drainage , 1m pipes, 100-150mm dia, 5-30m run	-	8.1	-	m/hr
	PVC Drainage , 1m pipes, 100-150mm dia, over 30m run	-	9.5	-	m/hr
	PVC Drainage , 3m pipes, 100-150mm dia, 0-5m run	-	12.2	-	m/hr
	PVC Drainage , 3m pipes, 100-150mm dia, 5-30m run	-	15.2	-	m/hr
	PVC Drainage , 3m pipes, 100-150mm dia, over 30m run	-	18.2	-	m/hr
	PVC Drainage , 6m pipes, 100-150mm dia, 0-5m run	-	22.2	-	m/hr
	PVC Drainage , 6m pipes, 100-150mm dia, 5-30m run	-	27.7	-	m/hr
	PVC Drainage , 6m pipes, 100-150mm dia, over 30m run	-	33.3	-	m/hr
	PVC Drainage, 3m pipes, 150-200mm dia, 5-30m run	-	10.6	-	m/hr
	PVC Drainage, 3m pipes, 150-200mm dia, over 30m run	-	12.8	-	m/hr
	PVC Drainage , 6m pipes, 150-200mm dia, 5-30m run	-	21.2	-	m/hr
	PVC Drainage , 6m pipes, 150-200mm dia, over 30m run	-	25.6	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 75mm dia, 0-5m run	-	4.7	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 75mm dia, 5-30m run	-	5.5	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 75mm dia, over 30m run	-	6.6	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 100mm dia, 0-5m run	-	4.4	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 100mm dia, 5-30m run	-	5.0	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 100mm dia, over 30m run	-	6.2	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 150mm dia, 0-5m run	-	3.2	-	m/hr

Drainage					
	Task / Description	Slow	Ave	Fast	Units
	Stoneware Drainage, Cement/Sand Joints, 150mm dia, 5-30m run	-	3.8	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 150mm dia, over 30m run	-	4.5	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 225mm dia, 0-5m run	-	2.1	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 225mm dia, 5-30m run	-	2.6	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 225mm dia, over 30m run	-	3.1	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 300mm dia, 0-5m run	-	1.4	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 300mm dia, 5-30m run	-	1.7	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, 300mm dia, over 30m run	-	2.4	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, over 375mm dia, 0-5m run	-	1.1	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, over 375mm dia, 5-30m run	-	1.3	-	m/hr
	Stoneware Drainage, Cement/Sand Joints, over 375mm dia, over 30m run	-	1.6	-	m/hr
	Stoneware Drainage, Flexible Joints, 75mm dia, 0-5m run	-	8.3	-	m/hr
	Stoneware Drainage, Flexible Joints, 75mm dia, 5-30m run	-	10.0	-	m/hr
	Stoneware Drainage, Flexible Joints, 75mm dia, over 30m run	-	12.5	-	m/hr
	Stoneware Drainage, Flexible Joints, 100mm dia, 0-5m run	-	7.7	-	m/hr
	Stoneware Drainage, Flexible Joints, 100mm dia, 5-30m run	-	9.1	-	m/hr
	Stoneware Drainage, Flexible Joints, 100mm dia, over 30m run	-	10.0	-	m/hr
	Stoneware Drainage, Flexible Joints, 150mm dia, 0-5m run	-	5.2	-	m/hr
	Stoneware Drainage, Flexible Joints, 150mm dia, 5-30m run	-	6.2	-	m/hr
	Stoneware Drainage, Flexible Joints, 150mm dia, over 30m run	-	7.7	-	m/hr
	Stoneware Drainage, Flexible Joints, 225mm dia, 0-5m run	-	2.7	-	m/hr
	Stoneware Drainage, Flexible Joints, 225mm dia, 5-30m run	-	3.3	-	m/hr
	Stoneware Drainage, Flexible Joints, 225mm dia, over 30m run	-	4.0	-	m/hr
	Stoneware Drainage, Flexible Joints, 300mm dia, 0-5m run	-	1.7	-	m/hr
	Stoneware Drainage, Flexible Joints, 300mm dia, 5-30m run	-	2.1	-	m/hr
	Stoneware Drainage, Flexible Joints, 300mm dia, over 30m run	-	2.5	-	m/hr
	Stoneware Drainage, Flexible Joints, over 375mm dia, 0-5m run	-	1.4	-	m/hr
	Stoneware Drainage, Flexible Joints, over 375mm dia, 5-30m run	-	1.6	-	m/hr
	Stoneware Drainage, Flexible Joints, over 375mm dia, over 30m run	-	2.1	-	m/hr
	PVC, Stoneware, Pitch Fibre & Concrete Joints	-	2.4	-	mins/no
	Pitch Fibre Pipes, 75mm dia, 0-5m run	-	9.1	-	m/hr
	Pitch Fibre Pipes, 75mm dia, 5-30m run	-	16.6	-	m/hr
	Pitch Fibre Pipes, 75mm dia, over 30m run	-	20.0	-	m/hr
	Pitch Fibre Pipes, 100mm dia, 0-5m run	-	9.1	-	m/hr
	Pitch Fibre Pipes, 100mm dia, 5-30m run	-	16.6	-	m/hr
	Pitch Fibre Pipes, 100mm dia, over 30m run	-	20.0	-	m/hr
	Pitch Fibre Pipes, 150mm dia, 0-5m run	-	6.6	-	m/hr
	Pitch Fibre Pipes, 150mm dia, 5-30m run	-	12.5	-	m/hr
	Pitch Fibre Pipes, 150mm dia, over 30m run	-	14.3	-	m/hr
	Pitch Fibre Pipes, 200mm dia, 0-5m run	-	6.2	-	m/hr
	Pitch Fibre Pipes, 200mm dia, 5-30m run	-	11.1	-	m/hr
	Pitch Fibre Pipes, 200mm dia, over 30m run	-	12.5	-	m/hr
	Pitch Fibre Pipes, 225mm dia, 0-5m run	-	5.8	-	m/hr
	Pitch Fibre Pipes, 225mm dia, 5-30m run	-	10.0	-	m/hr
	Pitch Fibre Pipes, 225mm dia, over 30m run	-	12.1	-	m/hr
	Hepsleve Rubber Joint System, 75mm dia, 0-5m run	-	12.5	-	m/hr
	Hepsleve Rubber Joint System, 75mm dia, 5-30m run	-	14.3	-	m/hr
	Hepsleve Rubber Joint System, 75mm dia, over 30m run	11.2	16.6	30.1	m/hr
	Hepsleve Rubber Joint System, 100mm dia, 0-5m run	-	10.0	-	m/hr
	Hepsleve Rubber Joint System, 100mm dia, 5-30m run	-	12.5	-	m/hr
	Hepsleve Rubber Joint System, 100mm dia, over 30m run	-	14.3	-	m/hr
	Hepsleve Rubber Joint System, 150mm dia, 0-5m run	-	7.1	-	m/hr
	Hepsleve Rubber Joint System, 150mm dia, 5-30m run	-	9.1	-	m/hr
	Hepsleve Rubber Joint System, 150mm dia, over 30m run	8.3	10.0	13.8	m/hr
	Hepsleve Rubber Joint System, 225mm dia, 0-5m run	-	6.8	-	m/hr
	Hepsleve Rubber Joint System, 225mm dia, 5-30m run	-	4.5	-	m/hr
	Hepsleve Rubber Joint System, 225mm dia, over 30m run	-	5.5	-	m/hr
	Hepsleve Rubber Joint System, 300mm dia, 0-5m run	-	2.5	-	m/hr
	Hepsleve Rubber Joint System, 300mm dia, 5-30m run	-	2.9	-	m/hr
	Hepsleve Rubber Joint System, 300mm dia, over 30m run	-	3.7	-	m/hr
	Hepsleve Rubber Joint System, over 375mm dia, 0-5m run	-	1.9	-	m/hr
	Hepsleve Rubber Joint System, over 375mm dia, 5-30m run	-	2.3	-	m/hr

Drainage					
	Task / Description	Slow	Ave	Fast	Units
	Hepsleve Rubber Joint System, over 375mm dia, over 30m run	-	2.7	-	m/hr
	Concrete Pipes, 1.5m pipes, 375mm dia, 0-5m run	-	2.8	-	m/hr
	Concrete Pipes, 1.5m pipes, 375mm dia, 5-30m run	-	3.4	-	m/hr
	Concrete Pipes, 1.5m pipes, 375mm dia, over 30m run	-	3.8	-	m/hr
	Concrete Pipes, 1.5m pipes, 450mm dia, 0-5m run	-	2.7	-	m/hr
	Concrete Pipes, 1.5m pipes, 450mm dia, 5-30m run	-	3.2	-	m/hr
	Concrete Pipes, 1.5m pipes, 450mm dia, over 30m run	-	3.6	-	m/hr
	Concrete Pipes, 1.5m pipes, 525mm dia, 0-5m run	-	2.5	-	m/hr
	Concrete Pipes, 1.5m pipes, 525mm dia, 5-30m run	-	2.9	-	m/hr
	Concrete Pipes, 1.5m pipes, 525mm dia, over 30m run	-	3.4	-	m/hr
	Concrete Pipes, 1.5m pipes, 600mm dia, 0-5m run	-	2.4	-	m/hr
	Concrete Pipes, 1.5m pipes, 600mm dia, 5-30m run	-	2.7	-	m/hr
	Concrete Pipes, 1.5m pipes, 600mm dia, over 30m run	-	3.3	-	m/hr
	Concrete Pipes, 1.5m pipes, 675mm dia, 0-5m run	-	2.2	-	m/hr
	Concrete Pipes, 1.5m pipes, 675mm dia, 5-30m run	-	2.6	-	m/hr
	Concrete Pipes, 1.5m pipes, 675mm dia, over 30m run	-	2.9	-	m/hr
	Concrete Pipes, 1.5m pipes, 750mm dia, 0-5m run	-	1.1	-	m/hr
	Concrete Pipes, 1.5m pipes, 750mm dia, 5-30m run	-	2.4	-	m/hr
	Concrete Pipes, 1.5m pipes, 750mm dia, over 30m run	-	2.5	-	m/hr
	Concrete Pipes, 1.5m pipes, 1,050mm dia	-	2.9	4.2	m/day
	Concrete Pipes, 1.5m pipes, 1,500mm dia	-	2.5	3.8	m/day
	Concrete Pipes, 1.5m pipes, 1,800mm dia	-	2.1	2.6	m/day
	Concrete Pipes, 2.5m pipes, 375mm dia, 0-5m run	-	3.6	-	m/hr
	Concrete Pipes, 2.5m pipes, 375mm dia, 5-30m run	-	4.3	-	m/hr
	Concrete Pipes, 2.5m pipes, 375mm dia, over 30m run	-	5.0	8.0	m/hr
	Concrete Pipes, 2.5m pipes, 450mm dia, 0-5m run	-	3.4	-	m/hr
	Concrete Pipes, 2.5m pipes, 450mm dia, 5-30m run	-	4.1	-	m/hr
	Concrete Pipes, 2.5m pipes, 450mm dia, over 30m run	-	4.5	9.0	m/hr
	Concrete Pipes, 2.5m pipes, 525mm dia, 0-5m run	-	3.3	-	m/hr
	Concrete Pipes, 2.5m pipes, 525mm dia, 5-30m run	-	3.8	-	m/hr
	Concrete Pipes, 2.5m pipes, 525mm dia, over 30m run	-	4.1	-	m/hr
	Concrete Pipes, 2.5m pipes, 600mm dia, 0-5m run	-	3.0	-	m/hr
	Concrete Pipes, 2.5m pipes, 600mm dia, 5-30m run	-	3.5	-	m/hr
	Concrete Pipes, 2.5m pipes, 600mm dia, over 30m run	-	4.0	-	m/hr
	Concrete Pipes, 2.5m pipes, 675mm dia, 0-5m run	-	2.8	-	m/hr
	Concrete Pipes, 2.5m pipes, 675mm dia, 5-30m run	-	3.3	-	m/hr
	Concrete Pipes, 2.5m pipes, 675mm dia, over 30m run	-	3.7	-	m/hr
	Concrete Pipes, 2.5m pipes, 750mm dia, 0-5m run	-	2.6	-	m/hr
	Concrete Pipes, 2.5m pipes, 750mm dia, 5-30m run	-	3.1	-	m/hr
	Concrete Pipes, 2.5m pipes, 750mm dia, over 30m run	-	3.6	-	m/hr
	Lay Shingle Around Pipework, under 150mm dia	-	7.0	-	m/hr
	Lay Shingle Around Pipework, over 150mm dia	4.0	5.5	9.0	m/hr

Manholes and Gulleys					
	Task / Description	Slow	Ave	Fast	Units
	Concrete Pre-Cast Manhole Units , 610 x 455 x 51 mm	-	1.2	-	hrs/no
	Concrete Pre-Cast Manhole Units , 990 x 610 x 64 mm	-	1.6	-	hrs/no
	Brickwork Manhole , 1.0 brick engineering	-	0.3	-	m2/hr
	Brickwork Manhole , 1.5 brick engineering	-	0.2	-	m2/hr
	Brickwork Manhole , 2.0 brick engineering	-	0.2	-	m2/hr
	Benching to Manhole , under 0.5m2	-	0.9	-	hrs/no
	Benching to Manhole , 0.5-0.75m2	-	1.2	-	hrs/no
	Benching to Manhole , 0.75-1.0m2	-	1.8	-	hrs/no
	Brickwork Manhole , build in pipes , under 150mm dia	-	0.1	-	hrs/no
	Brickwork Manhole , build in pipes , 150-225mm dia	-	0.2	-	hrs/no
	Brickwork Manhole , build in pipes , over 225mm dia	-	0.3	-	hrs/no
	Brickwork Manhole , build in cast iron covers	0.3	0.6	1.2	hrs/no
	Yard Gulleys, 75-150mm dia pipes , bed and level	-	2.2	-	no/hr
	Yard Gulleys, 150-225mm dia pipes , bed and level	-	1.8	-	no/hr
	Yard Gulleys, 225-300mm dia pipes , bed and level	-	1.5	-	no/hr
	Road Gulleys, 600mm deep, bed and level	-	1.2	-	no/hr
	Road Gulleys, 750mm deep, bed and level	-	0.8	-	no/hr
	Road Gulleys, 900mm deep, bed and level	-	0.4	-	no/hr
	Road Gulleys, 1,200mm deep, bed and level	-	0.3	-	no/hr
	Road Gulleys, install gratings	-	5.0	-	no/hr
	PVC Manhole	-	15.0	-	mins/no

Rainwater Works					
	Task / Description	Slow	Ave	Fast	Units
	UPVC Downpipes , 75mm	-	3.3	-	m/hr
	UPVC Guttering , 75mm	-	3.1	-	m/hr
	UPVC RWP Fittings , 75mm	-	3.1	-	no/hr
	Cast Iron Downpipes , 75mm	-	2.1	-	m/hr
	Cast Iron Guttering , 75mm	-	2.5	-	m/hr
	Cast Iron RWP Fittings , 75mm	-	2.2	-	no/hr
	Aluminium Downpipes , 72mm	-	2.5	-	m/hr
	Aluminium Guttering , 72mm	-	2.9	-	m/hr
	Aluminium RWP Fittings , 72mm	-	1.9	-	no/hr

Lift Installation					
	Task / Description	Slow	Ave	Fast	Units
	Hydraulic Lift, Install 2 to 3 storeys	-	3.0	-	wks/floor
	Hydraulic Lift, Install 4 storeys and above	-	2.0	-	wks/floor
	Hydraulic Lift, Testing allow 2 wks plus	-	1.0	-	day/floor
	Standard Lift, Manufacture, test and deliver	-	12.0	-	wks
	Non-Standard Lift, Manufacture, test and deliver	75.0	65.0	52.0	wks

Escalators					
	Task / Description	Slow	Ave	Fast	Units
	Truss type, Overall Installation (excl arch finishes)	14.0	12.0	11.0	wks
	Truss type, Manufacture, test and deliver	-	60.0	48.0	wks
	Truss type, Phase A assemble truss , position/level	-	1.0	-	wks
	Truss type, Stop-Work for surrounding finishes	8.0	6.0	4.0	wks
	Truss type, Phase B decking and glazing etc	-	5.0	-	wks
	Truss type, Phase C performance testing	-	2.0	-	wks
	Truss type, Phase D full load testing	-	2.0	-	wks
	Truss type, Phase E final test and inspection	-	2.0	-	wks

Electrical System					
	Task / Description	Slow	Ave	Fast	Units
	Boxes 15to30x15x15		8		Ea/day
	Meter Boards 4 terminals/rainproof	0.5	1		Ea/day
	Main circuit breaker	0.5	1		Ea/day
	Panelboards 1pole 3wire,240volts,100amp., 10 to 20 circuits		0.7		Ea/day
	Panelboards 1pole 3wire,225volts,100amp., 24 to 42 circuits		0.5		Ea/day
	Panelboards 1pole 4wire,240volts,100amp., 10 to 20 circuits		0.7		Ea/day
	Panelboards 1pole 4wire,225volts,100amp., 24 to 42 circuits		0.4		Ea/day
	safety switches		3		Ea/day
	lighting Exterior Fixtures wall mounted incandescent/mercury vapor		4		Ea/day
	lighting Exterior Fixtures wall mounted floodlight and others		2.5		Ea/day
	Steel or alum. Pole hieght to 5m		3		Ea/day
	Steel or alum. Pole hieght over 5m		2.5		Ea/day
	Bracket arms, 1&2 arm		8		Ea/day
	Bracket arms, 3&4 arm		5		Ea/day
	Landscape lights		5		Ea/day
	interior lamp		8		Ea/day
	Fluorescent 60cm		3		Ea/day
	Fluorescent 120cm		3		Ea/day
	Railway Station 1st Fix	-	38.0	-	wks
	Railway Station 2nd Fix	-	16.0	-	wks
	Railway Station T&C	-	8.0	-	wks
	Cable Installation, 1 cable laid in trench and protect	-	6.2	-	m/hr
	Cable Installation, 2 cable laid in trench and protect	-	5.6	-	m/hr
	Cable Installation, 5 cable laid in trench and protect	-	4.3	-	m/hr
	Cable Installation, 7 cable laid in trench and protect	-	3.7	-	m/hr
	Cable Installation, 8 cable laid in trench and protect	-	3.5	-	m/hr
	Cable Installation, 2 cable laid in trench and protect, 100mm dia	-	1.8	-	m/hr
	Cable Installation, 2 cable laid in trench and protect, 135mm dia	-	1.6	-	m/hr
	Cable Installation, 3 cable laid in trench and protect, 100mm dia	-	1.0	1.5	m/hr
	Cable Installation, 6 cable laid in trench and protect, 100mm dia	-	0.7	1.2	m/hr
	Cable Installation, 4 cable laid in trench and protect, 150mm dia	0.7	1.2	3.1	m/hr
	Cable Installation, 36 cable laid in trench and protect, 100mm dia	-	0.2	-	m/hr
	Cable Installation, 10 cable laid in trench and protect, 100mm dia	-	0.5	-	m/hr
	Cable Installation, 1 cable laid in trench and protect, 300mm dia	-	1.3	-	m/hr

Power Supply					
	Task / Description	Slow	Ave	Fast	Units
	AC Install 2 no Service transformers, 6 men	-	12.0	-	days
	AC Install 2 no Switchgear, 7 men	-	12.0	-	days
	AC Install Associated Trays and ladders, 3 men	11.0	5.0	-	days
	AC Cable Terminations in Tx and SWG Rooms, 3 men	12.0	6.0	-	days
	DC Install Insulated Flooring in DC Room, 1 men	-	5.0	-	days
	DC Install 1 set Rectifier Transformer and Rectifier, 7 men	-	1.0	-	days
	DC Install Switchgear, 7 men	-	10.0	-	days
	DC Primary Cable Terminations and Busduct, 18 men	12.0	9.0	-	days
	DC Secondary Cable Terminations and Connections, 9 men	12.0	6.0	-	days
	Trackside Cabling 33kV/Pilot Cables, 10 men	0	-	-	m run/day
	Trackside Cabling Terminations, 6 men	-	1.0	-	days

NATM Tunnels					
	Task / Description	Slow	Ave	Fast	Units
	Standard Advance Method, used on tunnels with max diameter	-	7.0	-	m
	Half Face Advance Method, used on tunnels with max diameter	-	10.0	-	m
	Double side Drift Advance Method, used on tunnels with diameter over	-	10.0	-	m
	Double side Drift Advance Method, used on tunnels with diameter over	-	10.0	-	m
	Excavation, London Clay, internal diameter under 7.0m	2.5	2.9	3.2	m/day
	Excavation, London Clay, internal diameter 7.0-10.0m	1.5	2.0	2.5	m/day
	Excavation, London Clay, internal diameter over 10.0m	1.0	1.3	1.5	m/day
	Excavation, Woolwich/Reading Beds, internal diameter 2.0-7.0m	1.5	1.8	2.0	m/day
	Excavation, Woolwich/Reading Beds, internal diameter 7.0-10.0m	-	1.5	-	m/day
	Excavation, Woolwich/Reading Beds, internal diameter over 10.0m	-	1.0	1.5	m/day
	Excavation, London Clay, Inclined Tunnels, diameter 2.0-7.0m	1.5	2.0	3.2	m/day
	Excavation, London Clay, Inclined Tunnels, diameter 7.0-10.0m	0.5	1.0	2.2	m/day
	Excavation, London Clay, Vertical Shafts, diameter 2.0-9.0m	1.0	1.5	2.2	m/day
	Excavation, London Clay, Vertical Shafts, diameter 9.0-15.0m	0.5	1.0	2.6	m/day
	Excavation, London Clay, Circulation Halls	0.8	1.0	1.2	m of circumf/day
	Excavation, London Clay, Junction Excavation	-	0.2	-	m/day
	Mucking Capacity, 1 access with 2 crews	190.0	225.0	279.0	m3/day
	Mucking Capacity, 1 access with 4 crews	255.0	300.0	366.0	m3/day
	Mucking Capacity, 2 access with 4 crews	382.0	450.0	549.0	m3/day
	Sprayed Secondary Lining, Tunnels, diameter under 6.5m	2.1	2.5	2.8	m/day
	Sprayed Secondary Lining, Tunnels, diameter over 6.5m	1.5	2.0	2.4	m/day
	Sprayed Secondary Lining, Inclined Tunnels, diameter under 6.5m	1.5	2.0	2.3	m/day
	Sprayed Secondary Lining, Inclined Tunnels, diameter over 6.5m	1.0	1.5	1.9	m/day
	Sprayed Secondary Lining, Vertical Shafts, diameter under 6.5m	1.8	2.0	2.5	m/day
	Sprayed Secondary Lining, Vertical Shafts, diameter over 6.5m	2.2	2.5	3.1	m/day
	Sprayed Secondary Lining, Circulation Halls, diameter under 11.0m	-	2.0	2.3	m/day
	Sprayed Secondary Lining, Intermediate Landing Tunnels with columns	1.7	2.0	2.1	m/day
	Sprayed Secondary Lining, Intermediate Landing Tunnels without columns	1.6	2.1	2.3	m/day
	Sprayed Secondary Lining, Tunnel Junctions	-	0.2	0.3	m/day
	Insitu Permanent Lining, 12m bays, 350-400mm reinforced with PCV backing	-	8.4	12.0	m/day
	Insitu Permanent Lining, extra over excavate/lining time to allow for permanent lining	-	25.0	-	%
	Excavate and Line Cycle Time , Running Tunnels	3.2	4.0	4.9	m/day
	Excavate and Line Cycle Time, Station Access Adits	3.3	3.9	4.2	m/day
	Excavate and Line Cycle Time, Concourse Tunnels	2.2	2.5	2.7	m/day
	Excavate and Line Cycle Time, Escalator Tunnels	1.2	1.5	1.7	m/day

Commercial Kitchen

	Task / Description	Slow	Ave	Fast	Units
	Overall Installation for 100 persons or 50m ²	-	3.0	-	wks
	Overall Installation for 500 persons or 150m ²	-	5.0	-	wks
	Overall Installation for 1000 persons or 250m ²	-	8.0	-	wks
	Install Ovens, friers and large mixers etc	-	1.0	-	mandays
	Install Sinks, bain maries and washers etc	-	2.0	-	mandays

Restoration Works

	Task / Description	Slow	Ave	Fast	Units
	Façade Cleaning, Water Jetting	-	25.0	-	m ² /day
	Façade Cleaning, Acid Etching	-	9.0	-	m ² /day
	Façade Cleaning, Grit Blasting	-	12.0	-	m ² /day
	Cladding Restoration, Brickwork	-	6.5	-	m ² /day
	Cladding Restoration, Stonework courses	-	20.0	-	m/day

Trackwork

	Task / Description	Slow	Ave	Fast	Units
	FST Floating Track Slab, side restraints	9.6	-	-	m/day
	FST Floating Track Slab, resin pads	10.2	-	-	m/day
	FST Floating Track Slab, slab units	10.6	-	-	m/day
	PCBT - Pre-cast Concrete Block Track, in Bored Tunnels	17.1	41.0	-	m/day
	PCBT - Pre-cast Concrete Block Track, in Cut and Cover Tunnels	-	35.0	-	m/day
	PCBT - Pre-cast Concrete Block Track, in Station Tunnels	-	35.0	-	m/day
	IST - Isolated Slab Track, in Bored Tunnels	-	20.0	-	m/day
	IST - Isolated Slab Track, in Cut and Cover Tunnels	-	34.0	-	m/day
	IST - Isolated Slab Track, in Station	-	29.0	-	m/day
	FST - Floating Slab Track, in Station	3.6	4.6	5.7	m/day
	Ballasted Track, in Mainline	57.0	71.0	115.0	m/day
	Ballasted Track, in Depot	-	28.0	-	m/day
	Non-Ballasted Track, in Depot	8.5	12.8	17.4	m/day
	Embedded / Paved Track, in Depot	-	71.0	-	m/day
	Heavy Maintenance / Train Wash Track, in Depot	-	29.0	-	m/day
	Maintenance Pit, in Depot	-	52.0	-	m/day
	Siding Trackwork, in Depot	-	38.0	-	m/day

Post Tensioning

	Task / Description	Slow	Ave	Fast	Units
	Lag for Initial Stress Tensioning after 1st bay cast	-	48.0	-	hrs
	Lag for Final Stress Tensioning after Initial Stress	-	120.0	-	hrs

Secant Piling

	Task / Description	Slow	Ave	Fast	Units
	Construct 30m dia cofferdam, 255 piles/concrete base	-	12.0	-	wks

Working Platforms					
	Task / Description	Slow	Ave	Fast	Units
	Metal KwikStage, 5 Boards with 2m lifts	11.1	11.9	12.5	m run/hr
	Metal KwikStage, 5 Boards with 3m lifts	9.1	10.0	10.5	m run/hr
	Metal KwikStage, House Scaffold with 3 lifts	2.8	3.2	3.8	m run/hr
	Metal Tube and Fittings, 5-6 Boards wide	3.2	3.7	4.6	m run/hr
	Tube and Fitting Platforms, 50-250m ³	10.6	12.5	18.5	m ³ /hr
	Tube and Fitting Platforms, 250-1000m ³	18.5	22.5	24.5	m ³ /hr
	Tube and Fitting Platforms, over 1000m ³	24.5	30.0	33.5	m ³ /hr
	Tube and Fitting Platforms, striking	-	200.0	-	% x erect

Rendering					
	Task / Description	Slow	Ave	Fast	Units
	Large Wall Areas, applied in 2 coats	-	2.2	2.7	m ² /hr
	Small Wall Areas, applied in 2 coats	-	1.5	1.7	m ² /hr
	Narrow Widths, applied in 2 coats	-	1.2	1.4	m ² /hr
	Columns and Beams, applied in 2 coats	-	1.5	1.7	m ² /hr
	Staircase and Soffits, applied in 2 coats	-	1.4	-	m ² /hr