

Business Activities for Executing Core Processes

Activities: A3401-A3800 (@400 per function)

Function: **Designing of MEP services of buildings**

(Chapter:3 & Annex 20A)

Process code: C1251 Core process: Designing of External & Internal Electrical works- Sourced from: Chapter 3, Point 1.1	Proposed activity codes
Stage A) Developing Preliminary Design brief and drawings for covering:	
Developing Strategic plans vis a vis vision	A3401
Developing overall construction plans	A3402
Developing design brief	A3403
Development of Preliminary drawings	A3404
Stage B) Developing Detailed drawings and schemes, including aspects such as:	
Developing Statutory approval/sanctioned design/drawings	A3405
BOQ & schedule of BOQ- External electricals as per details given in chapter 3, activity 1.1	A3406
Specifications of each BOQ - External electricals as above	A3407
Each of -the external Electrical works scope areas as above	A3408
BOQ & schedule of BOQ- Internal Electricals as per details given in chapter 3, activity 1.1	A3409
Specifications of each BOQ -Internal Electricals as above	A3410
Drawings w.r.t each of – Internal Electrical works scope areas as above	A3411
Stage C) Developing Schematic drawings for statutory approvals.	
Incorporating statutory requirements into design and drawings for submission to statutory authorities	A3412
Stage D) Developing Tender with BOQ and specifications.	
Bill of quantities (BOQ) with detailed specifications at line-item level- External electrical works	A3413
BOQ materials to be procured by project owner & to be supplied to the proposed contractor for erection - External electrical works	A3414

BOQ Items in Contractor's scope for supply, inspection, testing & commissioning of - External electrical works	A3415
Specifications for each BOQ material - External electrical works	A3416
Incorporating relevant Technical /Quality standards for each BOQ material & workmanship, inspection, testing & commissioning of - External electrical works	A3417
Bill of quantities (BOQ) with detailed specifications at line-item level- Internal electrical works	A3418
BOQ materials to be procured by project owner & to be supplied to the proposed contractor for erection - Internal electrical works	A3419
BOQ Items in Contractor's scope for supply, inspection, testing & commissioning of - Internal electrical works	A3420
Specifications for each BOQ material - Internal electrical works	A3421
Incorporating relevant Technical /Quality standards for each BOQ material & workmanship, inspection, testing & commissioning of - Internal electrical works	A3422
Stage E). Developing Constructions drawings duly coordinated (GFC)	
Preparing coordinated drawings for each of relevant External Electrical works scope items as listed above vis vis designs and drawings from Architect team, Interior design team or & any other MEP packages mentioned above.	A3423
Ditto as above but for Internal Electrical works scope items.	A3424
Stage F). Carrying out & validating design calculations	
Proposed connected power consumption points at different progressive loads or & based on estimated occupancy of constructed areas and pro-rata electrical power consumption over some time	A3425
Proposed power factor & proposed power sanction /KVA	A3426
Stage G) Making Cost estimates- include values in Rs & Cost/Square foot of saleable area or built up as appropriate.	
Detailed working vis a vis each BOQ item, quantity and estimated rates based on tender documents, designs & drawings-external electrical works	A3427
As above but for Internal electrical works	A3428
Stage H) Developing As-built design calculations & As-built drawings.	
Recomputing design calculations - external electrical works	A3429
Making drawings as built. - external electrical works	A3430
Recomputing design calculations – internal electrical works	A3431

Making drawings as built. – internal electrical works	A3432
32 activities have been identified & coded as A3401-A3432	
Process code: C1252	
Core process: Designing of HVAC works (Heating, ventilation & air conditioning)	
Sourced from: Chapter 3, Point 2.1	
Stage A) Preliminary Design brief and drawings.	
This includes carrying out activities for computation of:	
Heat load calculations for each construction area for heating works	A3433
Fresh Air circulation requirements for ventilation works	A3434
Cooling load calculations for each construction area for air conditioning works	A3435
Stage B) Detailed design /drawings /specifications and scheme.	
Detailed design /drawings /specifications for Heating works, Heat exchangers, Fan coil systems, Reverse cycle heating system, Distribution pipelines, Valves, Pumps, Fittings, Instrumentation and control, Local heating units	A3436
Detailed design /drawings /specifications for Chillers	A3437
Detailed design /drawings /specifications for VRV	A3438
Detailed design /drawings /specifications for outdoor units,	A3439
Detailed design /drawings /specifications Indoor units	A3440
Detailed design /drawings /specifications Centrifugal fans	A3441
Detailed design /drawings /specifications Jet fans	A3442
Fixtures &Fittings Detailed design /drawings /specifications for the heating system.	A3443
Fixtures &Fittings Detailed design /drawings /specifications for ventilation	A3444
Fixtures &Fittings Detailed design /drawings /specifications for	A3445
Detailed design /drawings /specifications pipes	A3446
Detailed design /drawings /specifications insulations	A3447
Stage C) Schematic drawings for statutory approvals.	
Specifications of all BOQ items as per statutory norms	A3448
Detailed design and drawings	A3449
Stage D) Developing Tender with BOQ and specifications.	

Bill of quantities (BOQ) with detailed specifications at the line item level	A3450
BOQ materials to be procured by project owner & to be supplied to the proposed contractor for the erection	A3451
BOQ Items in Contractor's scope for supply, inspection, testing & commissioning of HVAC -Heating, ventilation & air conditioning	A3452
Specifications for each BOQ material Incorporating relevant Technical /Quality standards for each BOQ material & workmanship, inspection, testing & commissioning of HVAC -Heating, ventilation & air conditioning	A3453
Stage E) Constructions drawings duly coordinated (GFC)-Design & drawings for	
Heating works	A3454
Ventilation & Jet fans	A3455
VRV/AC	A3456
Layouts for -heating works	A3457
Layouts for -AC/VRV	A3458
Layouts for-ventilation	A3459
All other BOQ materials are based on load calculations.	A3460
Statutory approvals related to submission drawings for complying with statutory code requirements	A3461
Stage F) Final Design calculations w.r. t	
Estimated Heat load	A3462
Estimated Cooling load	A3463
Fresh Air circulation	A3464
Stage G) Making Cost estimates -For entire project including in Rs & Cost/Sft. of the saleable area or built-up area or both as relevant:	
High-side BOQ materials such as but are not limited to: outside door unit with heat pumps, Indoor units with high wall units, cassette- units, non-return valves, joints & distribution heads etc. and	A3465
Low side BOQ materials such as but are not limited to Copper pipes, control cables, air distribution systems, grills, refrigerant pipes etc.	A3466
Ventilation works related to BOQ materials such as but not limited to centrifugal fans, jet fans, ducting.	A3467
Stage H) Issuing "As-built drawings"-post-work completion & approval.	
For heating works	A3468
For ventilation works	A3469

For air conditioning works	A3470
38 activities have been identified & coded as A3433-A3470	
70(32+38) have been identified by the author for two core processes from C1251-C1252	A3401-A3470
Flexibility to functional users has been provided to add 330 more key core activities (totalling 400) in various core processes from C1251-C1252 & expandable to C1300.	A3471-A3800