

INDUSTRIAL M&E; FIT OUT SERVICES

Technical Data Sheet | Coordinated Electrical & Mechanical Building Services

Typical technical parameters and project considerations for industrial and commercial M&E; fit outs. Final equipment ratings, capacities and system arrangements are project-specific and subject to design, site conditions and manufacturer data.

ELECTRICAL DISTRIBUTION & POWER

PARAMETER	TYPICAL REQUIREMENT / DESIGN CONSIDERATION
Incoming supply	Existing supply characteristics, maximum demand, available capacity and prospective fault current assessed.
LV distribution	Main switchgear, MCCBs, section boards and distribution boards selected to suit load, fault level and future capacity.
Submains	Cable type and size based on design current, correction factors, voltage drop, fault protection and installation method.
Machinery supplies	Three-phase/single-phase supplies, local isolation, starting characteristics and manufacturer requirements considered.
Small power	Socket outlets and dedicated circuits arranged around operational, maintenance and equipment requirements.
Containment	Cable ladder, tray, trunking, basket or conduit coordinated with mechanical services and structural constraints.
Earthing / bonding	Earthing and protective bonding arrangements verified for new and altered services.

LIGHTING, EMERGENCY & CONTROLS

PARAMETER	TYPICAL REQUIREMENT / DESIGN CONSIDERATION
General lighting	Lighting selected around area use, mounting height, maintained illuminance, uniformity, glare and environment.
Emergency lighting	Escape-route and emergency-lighting requirements coordinated with the final layout and fire strategy.
Lighting controls	Occupancy, daylight, time scheduling or zoned control incorporated where appropriate.
BMS / controls	Plant enable, status, alarms, sensors, actuators, variable-speed drives and metering interfaces defined.
Interlocks	Emergency stops, fire-alarm interfaces and plant shutdown / enable sequences established and functionally tested.

MECHANICAL BUILDING SERVICES

PARAMETER	TYPICAL REQUIREMENT / DESIGN CONSIDERATION
Ventilation	Airflow rates, duct sizes, pressure losses, fan duties, supply/extract locations and control strategy established.
Process extract	Specialist extract assessed separately where production processes generate fumes, heat, dust or other contaminants.
Heating / cooling	Plant duties based on calculated loads and operational requirements; electrical demand coordinated with LV design.
Pipework	Pipe sizes, flow rates, insulation, valves, supports and maintenance access selected to suit the system.
Water services	Domestic and plant water connections coordinated with applicable requirements and equipment demand.
Drainage / condensate	Falls, discharge points, access and condensate routes established before installation.
Plant access	Maintenance clearances, filter access, isolation and future equipment replacement routes considered.

FIRE, ENERGY & INSTALLATION COORDINATION

PARAMETER	TYPICAL REQUIREMENT / DESIGN CONSIDERATION
Fire strategy	M&E; routes, penetrations, dampers, fire-alarm interfaces and emergency functions coordinated with the fire strategy.
Fire stopping	Service penetrations through fire-resisting construction reinstated using an appropriate system.
Energy performance	Efficient lighting, HVAC plant, controls, zoning and metering considered where applicable.
Service coordination	Electrical containment, ductwork and pipework routes coordinated to minimise clashes and maintain access.
Operational sites	Shutdowns, isolations, temporary supplies and installation sequencing planned around production requirements.

TESTING, COMMISSIONING & HANDOVER

PARAMETER	TYPICAL REQUIREMENT / DESIGN CONSIDERATION
Electrical testing	Inspection, testing, protective-device verification, phase rotation and certification as applicable.
Mechanical commissioning	Airflow balancing, plant operation, controls, temperatures, pressures and flows checked as applicable.
Integrated testing	BMS, alarms, fire interfaces, interlocks, emergency stops and cause-and-effect functions verified.
Documentation	As-installed drawings, schematics, board schedules, test records, commissioning information and O&M; data provided.
Maintenance	Asset information, manufacturer requirements and recommended maintenance arrangements included at handover.

TYPICAL PROJECT INFORMATION REQUIRED

Architectural layouts | Existing electrical information | Supply and fault data | Plant schedules | Heating/cooling duties | Ventilation requirements | Machinery loads | Fire strategy | Controls/BMS requirements | Service routes | Future expansion plans

QUEST ELECTRICAL | Industrial M&E; Fit Outs | LV Distribution | Lighting | Power | Controls | Mechanical Services | Testing & Commissioning

Note: This is a general technical data sheet rather than a project specification. Cable sizes, protective devices, board ratings, plant duties, airflow rates, duct/pipe sizes, controls and system capacities must be established from project-specific information, calculations, current requirements and manufacturer technical data.