



Cleanroom Design Comparison Matrix

Elements to Evaluate		Design A	Design B	Design C
Cleanroom Envelope				
Flooring	Sealed Concrete			
	Epoxy Painted			
	Built Up Aggregate Epoxy			
	Methyl Methacralate (MMA)			
	Sheet Vinyl - Seamless Hot Weld			
	Rubber - Seamless Cold Weld			
	Vinyl Tiles			
	Conductive			
	Static Dissapative			
	Raised Access Floor			
	- Aluminum			
	- Steel			
	Walls	Modular Non-Progressive		
Stick Built				
Finishes				
Vinyl Clad Hardboard				
Vinyl Clad Gypsum				
Painted Steel				
Painted Aluminum				
Powder Coat Steel				
Powder Coat Aluminum				
Conductive Finish				
Static Dissapative Finish				
Phenolic Panels				
Core Material				
Polystyrene Core				
Foam Core				
Paper Core				
Treated Paper Core				
Gypsum Core				
Aluminum Honeycomb Core				
Polyurethane				



Cleanroom Design Comparison Matrix

	Elements to Evaluate	Design A	Design B	Design C
Cleanroom Envelope				
Ceiling System	Wire Hung vs Rod Hung			
	Gasketed vs GEL seal			
	Width of Grid 15/16", 1.5", 2" or 3"			
	Anodized/Powder Coat Finish			
	Flush Grid			
	- Balancing Dampers			
	- Clean Screens			
	- Sprinkler Heads			
	- Lighting			
	Stick Built vs Welded Modules			
	Walkable Grid			
	Point Loading of Grid			
Ceiling Support System	Attachments for Wire Hung Grid			
	Attachments for Rod Hung Grid			
	Building Structure vs Cleanroom Structure			
	Finish of Materials			
	- Pre-Galvanized			
	- Hot Dipped Galvanized			
	- Epoxy Painted			
	- Powder Coated			
HVAC Structural Support	Use Existing Structure			
	Provide New Self Supporting Structure			
	- Load Bearing Walls			
	- Self Supporting Mezzanine			



Cleanroom Design Comparison Matrix

	Elements to Evaluate	Design A	Design B	Design C
MEP Systems				
Design Conditions	Temperature Setpoint / Tolerance			
	Humidity Setpoint / Tolerance			
	Pressure Gradient			
	Make Up Air Conditions Summer/Winter			
	Maximum Noise Level			
	Minimum Lighting Level			
	Vibration Tolerance			
	Room Classification			
Air Delivery System	Ducted System			
	Pressurized Plenum			
	Fan Filter Units			
Air Conditioning System	Air Cooled vs Water Cooled			
	Sensible Heat Removal			
	Latent Heat Removal			
	Use of Existing Building Utilities			
Exhaust Systems	General Process Exhaust			
	Heat Exhaust			
	Solvent Exhaust			
	Acid Exhaust			
Make Up Air System	Source: Plant vs Outside Air			
	Separate Make Up Air Handler			
	Components included in MUA Unit			
	Level of Filtration on Make Up Air			
	Belt Driven vs Direct Drive			
	Variable Volume (VFD)			
	Humidification / Dehumidification			



Cleanroom Design Comparison Matrix

Elements to Evaluate		Design A	Design B	Design C
MEP Systems				
Control System	DDC vs PLC controllers			
	Computer Interface or local Panel			
	Data Logging / Alarm Log			
	Remote Communication (modem interface)			
	Minimum Control Points			
	Diagnostic Control Points			
Control Valves, Pumps, Specialites	2 Way or 3 Way Valves			
	Constant or Variable Volume Pumps			
	All refrigeration piping and components			
	All hydronic piping and components			
Fire Protection	Install Heads off Existing Main			
	New Main & Branch Piping			
	New Fire Pump Station			
	Contractor handles all permits/inspections			
	Coverage meets Insurance Company Requirements			
	Concealed vs Recessed Heads			
Drains	Sanitary			
	Condensate			
	Process / Waste Water			
Sinks / Drinking Fountains	Gown Room Wash Sink			
	Process Sinks - Wet Benches			



Cleanroom Design Comparison Matrix

		Elements to Evaluate	Design A	Design B	Design C
MEP Systems					
HVAC Piping	Piping Materials				
	- PVC				
	- CPVC				
	- Copper				
	- Steel				
	Insulation				
	- Lagged Fiberglass				
	- Armaflex / Neoprene				
	- Paper Vapor Barrier				
	- PVC Jacketing				
	- Aluminum Jacketing				
	Air Vents				
	Drain Points				
	Maintenance Access				
Process Piping	DI Water System				
	CDA piping				
	N2 piping				
	Speciality Gases				
City Water Piping	System Make Up Water				
	Sinks				
	Drinking Fountains				
	Eye Wash / Drench Showers				



Cleanroom Design Comparison Matrix

		Elements to Evaluate	Design A	Design B	Design C
MEP Systems					
Electrical Loads	Lighting				
	HVAC				
	Process				
Lighting	Lay-in Troffer vs Teardrop vs Flush Grid				
	Voltage 277 vs 120				
	Ballast: Rapid start electronic vs standard				
	T8 vs T12 Lamps				
	Emergency Lighting				
	Exiting Lighting				
	Amber Sleeves req'd in Photo				
	Light Lens Seal to Grid				
Receptacles	Quantity and Voltage				
	Spacing				
	Height Above Finished Floor				
	Tagged for Power Panel & Circuit				
	Receptacles by Remote HVAC Equipment				
HVAC Electrical Loads	Fan Motors				
	Compressors				
	Pumps				
	Humidifier				
	Heating Coils				
	Controls				
Process Electrical	Quantity of Connections				
	Voltage and Amp draw for Each Connection				
	Termination Condition. Disconnect/NEMA Plug				
Electrical Feed	Existing Building Panel Available				
	New Distribution Panels / Breakers				
	Step Down Transformers				
	Distance from Main Switch Gear to New Panels				



Cleanroom Design Comparison Matrix

	Elements to Evaluate	Design A	Design B	Design C
Life Safety	Egress Distances meet Code			
	Smoke Detection / Fire Alarm Panel			
	Smoke Purge			
	Safety Showers			
	Fire Extinguishes			
Commerical Proposal	Cost Breakdown By System			
	Type of Proposal			
	- Lump Sum			
	- Fixed Fee			
	- GMAX (shared saving)			
	- Cost plus			
	Sales Tax: Included / Excluded			
Bond: Included / Excluded				
Contractor Information	History of Past Projects			
	Safety Record			
	References			
	Financial Resources of Company			
	Project Team Resumes			
	Set of Proposal Drawings			
	Heat Load Calculations			
	Utility Requirements			
Project Schedule				