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10-Step Cold Room Planning Checklist (PDF)

A printable checklist covering insulation thickness, vapour sealing, refrigeration sizing, flooring, door selection and compliance before installation begins.

PRE-INSTALLATION TECHNICAL AUDIT CHECKLIST

- ☐ **1. Operating Temperature & Thermal Envelope Sizing**
  Define target storage temperatures (+1°C to +4°C chillers vs. -18°C to -25°C freezers) and ensure dimensions account for internal air movement and racking gaps.
- ☐ **2. Panel Insulation Type & Thickness Selection**
  Select high-density PIR (Polyisocyanurate) insulated panels—minimum 80mm–100mm for chillers and 120mm–150mm+ for walk-in freezers to minimize thermal loss.
- ☐ **3. Vapour Barrier Sealing Integrity**
  Verify continuous internal and external silicone bead sealing along all panel joint cam-locks and floor profiles to prevent warm, humid air ingress and ice formation.
- ☐ **4. Refrigeration Plant Sizing & Heat Load Calculations**
  Calculate exact heat loads considering ambient room conditions, product pull-down weight, daily door openings, and internal lighting heat output.
- ☐ **5. Floor Slab Insulation & Sub-Floor Frost Heave Protection**
  Ensure walk-in freezers feature an underfloor insulation layer and sub-slab ventilation/heating mats to prevent ground moisture from freezing and buckling the slab.
- ☐ **6. Cold Room Door Selection & Perimeter Frame Heaters**
  Choose between hinged or sliding doors based on traffic levels. Confirm heated frame perimeters and threshold heaters are specified for freezer applications.
- ☐ **7. Electrical Power Infrastructure & Isolator Placement**
  Confirm electrical phase availability (Single-Phase vs. Three-Phase) and position waterproof isolator switches adjacent to both the condensing unit and evaporator box.
- ☐ **8. Condensate Drainage & Trace Heater Line Routing**
  Map dedicated drain lines away from the evaporator coil box. Ensure freezer drain runs incorporate internal electric trace heating wires to prevent drain freeze-ups.
- ☐ **9. Condensing Unit Location & Airflow Ventilation**
  Position external condensing plant in well-ventilated areas away from direct sunlight, allowing sufficient heat rejection space and servicing clearance.
- ☐ **10. Food Safety Hygiene & F-Gas Regulatory Compliance**
  Ensure interior cladding meets food-safe standards (e.g., food-grade PVC/stainless steel with coved floor profiling) and system designs comply with F-Gas refrigerant laws.

TURNKEY ENGINEERING & PROJECT SUPPORT

Planning a Commercial Cold Room Project?
Get expert heat load calculations, CAD panel layout designs, and turnkey F-Gas installation support from the cold chain specialists at **Cold Room Plus**.

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