

# CHECKLIST

The following Joist Design information checklist was created to assist the building designer in the preparation of the building design drawings. (Ref. CAN/CSA S16-01 clause 16.4.1)

## JOIST DESIGN ESSENTIAL INFORMATION CHECKLIST

### A. LOADS

- A.1 - Uniform dead and live loads** acting on roof, floor and mezzanines
  - Specify if joist self weight is included or not in the uniform dead load
  - Show the area of various loading (ex.: concrete pavers, corridors, etc)
- A.2 - Gross wind uplift load** at the roof
  - Include a load distribution diagram
- A.3 - Concentrated, distributed or unbalanced loads**
  - Break down the content of the load and specify if it applies to top or bottom chord (ex.: moveable partition, hanger, roof anchor, etc.)
- A.4 - Snow pile up loads**
  - Show maximum accumulation and distribution length on a lower roof or in area adjacent to obstructions such as mechanical units, screen wall, etc.
- A.5 - Mechanical units and openings** (stairs, skylight opening, etc.)
  - Specify the position, dimensions and load affecting the joist
- A.6 - Sprinkler system loads**
  - Specify linear load, position and (if any) obstructions clearance requirements
- A.7 - Loads on joist cantilever ends** (ex.: canopy, brick wall, etc.)
- A.8 - Ponding load** on flow control drain roofs
  - Indicate if the rain load is concurrent with the snow load
- A.9 - Crane/monorail load:**
  - Specify loads to be applied to joist
  - Consider component weights (hoist, bridge, rail), wheel axis c/c, capacity and impact coefficient

### B. FORCES

- B.1 - Axial loads** (wind or seismic ) in joist top or bottom chord coming from **building bracing system** (horizontal, vertical and/or diaphragm)
- B.2 - Knee brace axial loads** attached to joist top or bottom chord
- B.3 - Joist end moment connection**
  - Indicate the magnitude and the load type for each type of load or combination of loads (dead, live, wind or seismic)
- B.4 - Lateral loads** in joist top or bottom chord (ex.: **wind post column, roof anchors, etc.**)

### C. DESIGN CRITERIA

- C.1 - Maximum allowable deflections** on roof and floor under live load and (if required) total load
  - Specify deflections for special conditions at mid-span and at the end of cantilever (ex.: masonry, brick wall, cranes, etc.)
- C.2 - Floor vibration criteria** (if any)
  - Specify minimum joist inertia or maximum allowable deflection
- C.3 - Roof drain slopes**
  - Identify the joist affected and specify insulation where required
- C.4 - Special camber** (if any)
  - Specify total camber or residual camber (after installation)
  - Identify the joists affected
- C.5 - ULC Fire rating** resistance requirement (if any)
- C.6 - Duct opening** passing through joists (if any)
  - Specify dimensions. Free opening, and position
- C.7 - Minimal material thickness** for corrosion resistance (if applicable)

NOTE: All loads on plans are considered service loads unless otherwise indicated.

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