

JOIST DESIGN

The following Joist Design information check list was created to assist the building designer in the preparation of the building design drawings. (Ref. CAN/CSA-S16.1 clause 16.5.1)

JOIST DESIGN ESSENTIAL INFORMATION CHECK LIST

<p>A. LOADS</p> <p><input type="checkbox"/> A.1 - Uniform dead and live loads acting on roof, floor and mezzanines</p> <ul style="list-style-type: none">• 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) <p><input type="checkbox"/> A.2 - Gross wind uplift load at the roof</p> <ul style="list-style-type: none">• Include a load distribution diagram <p><input type="checkbox"/> A.3 - Concentrated, distributed or unbalanced loads</p> <ul style="list-style-type: none">• Break down the content of the load and specify if it applies to top or bottom chord (ex.: moveable partition, hanger, roof anchor, etc.) <p><input type="checkbox"/> A.4 - Snow pile up loads</p> <ul style="list-style-type: none">• Show maximum accumulation and distribution length on a lower roof or in area adjacent to obstructions such as mechanical units, screen wall, etc. <p><input type="checkbox"/> A.5 - Mechanical units and openings (stairs, skylight opening, etc.)</p> <ul style="list-style-type: none">• Specify the position, dimensions and load affecting the joist <p><input type="checkbox"/> A.6 - Sprinkler system loads</p> <ul style="list-style-type: none">• Specify linear load, position and (if any) obstructions clearance requirements <p><input type="checkbox"/> A.7 - Loads on joist cantilever ends (ex.: canopy, brick wall, etc.)</p> <p><input type="checkbox"/> A.8 - Ponding load on flow control drain roofs</p> <ul style="list-style-type: none">• Indicate if the rain load is concurrent with the snow load <p><input type="checkbox"/> A.9 - Crane/monorail load:</p> <ul style="list-style-type: none">• Specify loads to be applied to joist• Consider component weights (hoist, bridge, rail), wheel axis c/c, capacity and impact coefficient	<p>B. FORCES</p> <p><input type="checkbox"/> B.1 - Axial loads (wind or seismic) in joist top or bottom chord coming from building bracing system (horizontal, vertical and/or diaphragm)</p> <p><input type="checkbox"/> B.2 - Knee brace axial loads attached to joist top or bottom chord</p> <p><input type="checkbox"/> B.3 - Joist end moment connection</p> <ul style="list-style-type: none">• Indicate the magnitude and the load type for each type of load or combination of loads (dead, live, wind or seismic) <p><input type="checkbox"/> B.4 - Lateral loads in joist top or bottom chord (ex.: wind post column, roof anchors, etc.)</p>	<p>C. DESIGN CRITERIA</p> <p><input type="checkbox"/> C.1 - Maximum allowable deflections on roof and floor under live load and (if required) total load</p> <ul style="list-style-type: none">• Specify deflections for special conditions at mid-span and at the end of cantilever (ex.: masonry, brick wall, cranes, etc.) <p><input type="checkbox"/> C.2 - Floor vibration criteria (if any)</p> <ul style="list-style-type: none">• Specify minimum joist inertia or maximum allowable deflection <p><input type="checkbox"/> C.3 - Roof drain slopes</p> <ul style="list-style-type: none">• Identify the joist affected and specify insulation where required <p><input type="checkbox"/> C.4 - Special camber (if any)</p> <ul style="list-style-type: none">• Specify total camber or residual camber (after installation)• Identify the joists affected <p><input type="checkbox"/> C.5 - ULC Fire rating resistance requirement (if any)</p> <p><input type="checkbox"/> C.6 - Duct opening passing through joists (if any)</p> <ul style="list-style-type: none">• Specify dimensions. Free opening, and position <p><input type="checkbox"/> C.7 - Minimal material thickness for corrosion resistance (if applicable)</p>
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NOTE: All loads on plans are considered service loads unless otherwise indicated.

DISCLAIMER NOTE

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