



CITY OF SAINT PAUL  
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## PRE-ENGINEERED PATIO/DECK ENCLOSURES

It is common to cover an exterior patio or an elevated wood deck with a pre-engineered, aluminum framed/foam sandwich panel, glazed enclosure.

Unlike the "conventionally framed", non-engineered houses to which these enclosures are typically applied, these enclosures are sold as a pre-engineered product designed and built to be mass-produced and competitively marketed. Thus, it is a requirement of this jurisdiction that the permit applicant submit a copy of the design calculations, clearly stating the design criteria, and certified by the manufacturer's engineer. The engineer must be registered to practice in the State of Minnesota.

The design criteria must indicate that the total-load deflection limit (in inches) to which all elements of the enclosure were designed is no greater than the span of the element (in inches) divided by 240. For instance, the limit on a ten foot span would be  $120"/240 = 1/2$  inch.

The deflection limit may exceed the span divided by 240 only if for each particular application for which a permit is being requested the engineer can demonstrate to the satisfaction of this Office that deflections greater than those obtained by dividing the span by 240 will not result in serviceability problems or connection distress, but in no case shall the total load deflection exceed the span divided by 180.

Also remember that adding the enclosure adds an additional level (i.e., the roof) that must be supported by the foundation. The permit applicant must be prepared to demonstrate to this Office that adequate foundation exists to support this additional level.