Tectum roof decks are structural building products. As structural products they are used as an element in achieving the diaphragm requirement for a structure.

Building must be able to resist the design horizontal loads imposed on the building from earthquakes (seismic) or winds. The structural roof assembly is an important element in the transfer of these loads to shear walls. This loading is typically expressed in pounds per linear foot.

Diaphragm shear requirements of the roof assembly vary greatly depending on the size and shape of the building and locations of shear walls within the building. Required shear values for roof assemblies range from less than 100 pounds per linear foot to over 1000 pounds per linear foot. Most requirements for buildings where Tectum decks are used are between 200 and 350 pounds per linear foot design load. Requirements of over 500 pounds per linear foot are needed in some roof areas where Tectum decks are used. Each building project needs to be evaluated by a structural engineer to determine the design shear requirement and the transfer paths.

Tectum decks were first evaluated for their adequacy as a roof diaphragm system in 1956. Testing has continued as new systems and products were developed. Many of these tested systems and products are listed in our ICC-ES Evaluation Report ESR-1112. This report is available online at www.tectum.com that has a link to the report on the ICC-ES website.

Attachment of Tectum decks requires screws and construction adhesive. Adhesive is used on the supports and along the tongue and groove joint of planks. Roof plank systems require staggered ends and a two span condition to achieve the design values. Tests where spans are eight foot are based on single span.

Additional diaphragm values are shown in the current roof deck catalog. Copies of specific tests are available upon request.

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