

**O 120. THE EFFECTS OF OVERSIZED/ OVERLOADED VEHICLES ON HIGHWAY
FLEXIBLE PAVEMENTS AND SELF-PROPELLED MODULAR TRANSPORTER
(SPMT) EXAMPLE**

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ABSTRACT: Highway flexible pavement design; is based on the determination of the thickness of the layers according to the characteristics of the material to be used in the current traffic loads and environmental conditions in a way to resist the stresses that will occur during the design life. An exemplary study on the transfer of an important building with SPMT (Self-Propelled Modular Transporter) carried out. Converting the axle load of the SPMT to the Equivalent Standard Single Axle Load Repetition Number; AASHTO 1993 design method, which is still the most used pavement design method in our country and in the world, has been calculated by using the damage formulas and the layer thickness calculation has been made. As the Mechanistic-Empirical Design Method has become an increasingly powerful method in the design of pavement according to empirical methods (AASHTO 1993), the mechanistic-empirical design method was used to compare the damage. For this, using the Kenpave software which is accepted as a reference in the mechanistic-empirical pavement analysis, the maximum stresses that will occur under the asphalt layer were calculated while passing SPMT's. The maximum horizontal tensile stress under the surface layer due to axle loads and the vertical pressure force are used to determine the number of load repetitions that will cause cracking and rutting damage, which is defined as the fatigue life of the pavement.

Keywords: Equivalent Standard Single Axle Load Repetition Number, Kenpave, Overweight/Oversized Vehicle, Project Logistics, Self-Propelled Modular Transporter