

***emtek***<sup>TM</sup>

HEAVY EQUIPMENT MAT  

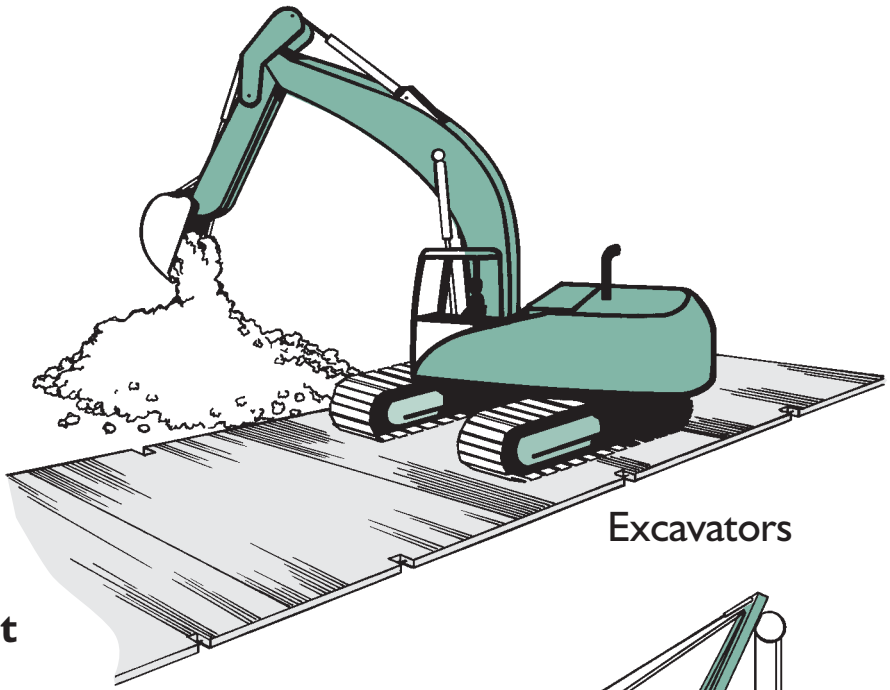
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DESIGN GUIDE

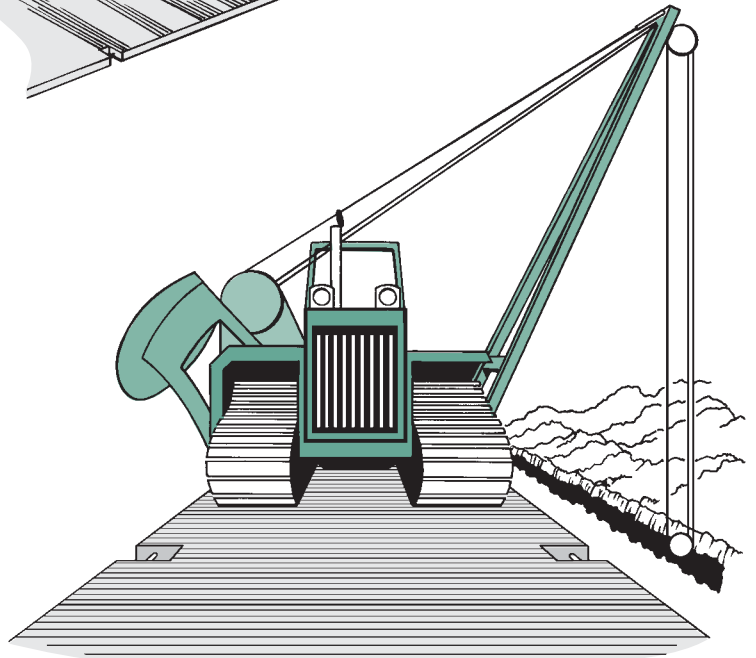


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HEAVY EQUIPMENT MAT

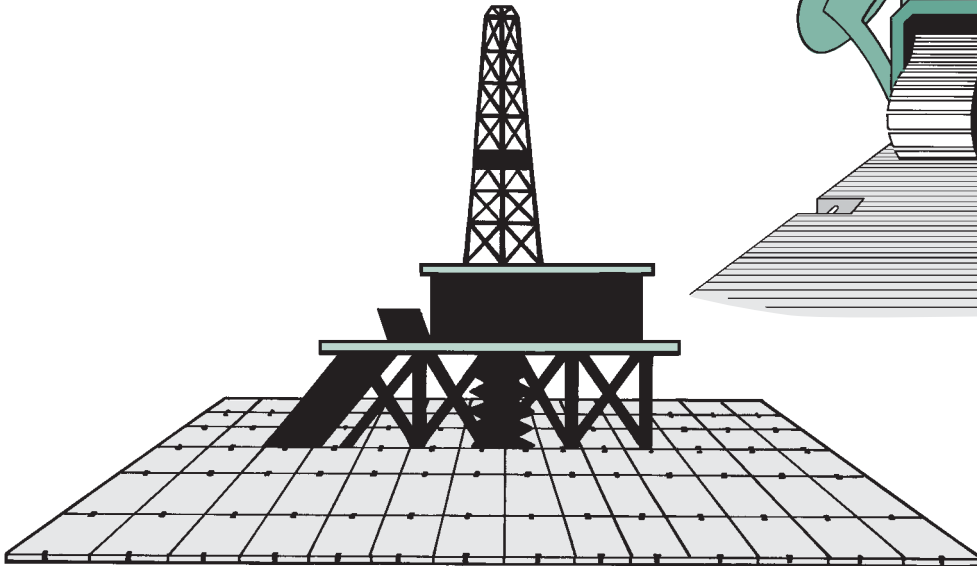
**emtek** is the engineered mat for enabling heavy equipment to operate on unstable or soft soil conditions.



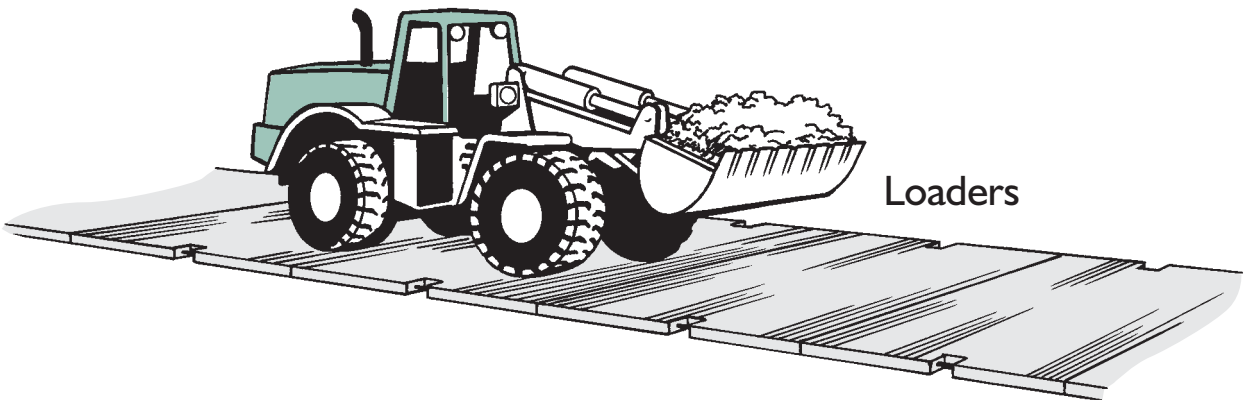
Excavators



Pipe Layers



Oil Rigs



Loaders

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## How to use this guide...

**emtek** mats are engineered to support specified loads. The tables in this guide show allowable loads. Each mat has been proof loaded to 1.5 times the allowable load at the manufacturing facility to certify these values.

The following pages show different loading configurations for the mats. Generally pneumatic tired vehicles will be represented by the 6' wide loading configurations (Load Case 1 and Load Case 4). Tracked vehicles will generally be represented by the 9' wide loading configurations (Load Case 2 and Load Case 5). When one wheel or track is on one mat, the single load configurations shown in Load Case 3 and Load Case 6 will be applicable. In all cases the loads shown in the tables are in thousands of pounds (Kips). To get pounds simply multiply the number in the cell by 1000.

It is important to note that the loads are associated with one foot of mat width. If the footprint of the tire is 2' long then the allowable load can be multiplied by two. This is especially important when considering applications for tracked vehicles that can distribute loads along track lengths up to 16' or longer.

There are three sets of tables. The first two sets (Tables 1-3 and Tables 4-6) are for applications where the entire length of the mat is sitting on soil, or some continuous surface (Uniform Bearing). The last table (Table 7) is for applications where the mat will only be supported on the ends. In applications of Uniform Bearing, we have shown different allowable loads for different soil conditions (Soil Type "A", "B", and "C"). These soil conditions are described in the notes on each page of the tables. It is important to choose the soil condition that most closely approximates the conditions that will be supporting the mats, as this will affect the allowable loads.

The first (Tables 1-3) and second (Tables 4-6) set of tables show different deflection preferences. If you would like to see no more than 2" of deflection on the matted surface, Tables 4-6 should be considered. If a deflection up to 4" is acceptable, then Tables 1-3 should be considered. In some cases loads are limited by the strength of the product, and maximum deflections are not allowed. In this case the deflection at the maximum allowable load is indicated.

Table 7 assumes an adequate bearing surface on each end with bearing lengths as shown in the Loading Diagrams. Table 7 shows maximum allowable loads as well as the deflections associated with those loads.

Certainly construction applications with heavy equipment will result in unique loads and loading configurations. If you have any questions regarding your unique situation please feel free to call us at 248-623-8599.

### Caution to Users:

The design properties and strength characteristics of the **emtek** product are verified at the time of manufacture. During the service life of the product, use conditions will reduce the load carrying capacity of the product. If there are any questions as to whether the strength of the product has been compromised during handling, storage, aggressive use, etc., please feel free to contact us so we can help assess any potential degrade.

























