



Fig. 4—Interrelationships of soil classifications and strength criteria

### FACTORS OF SAFETY

With judicious consideration for the effect of the total number of repetitions of load applications, the procedures herein have used values ranging from safety factors of 2.0 for over 500,000 repetitions of full-stress loadings to 1.35 for as low as 600 full-stress repetitions. This situation is accepted for floor areas involving forklift trucks as the loading. In the areas of the loading dock, where docking procedures also involve impact as well as high numbers of repetitions of loadings at a high level of stress, the safety factor has been arbitrarily increased to a selected value of between 1.70 and 2.0. In the areas of storage, values of 1.25 to 1.45 have been commonly used for design.

Contact area and wheel spacing are a part of load determination. The joint transfer coefficient should be a reasonable value to reflect long-term behavior of the joint. The better the joint is constructed and controlled, the higher this value may be. This coefficient quantifies the relative contribution of an adjacent slab segment to the load support ability of the slab in question. It is best determined in light of the historical performance of the particular joint type. Values of 1/5 to 1/3 for the transfer coefficient are reasonable for from 10 to 15 years of use with a reasonable amount of maintenance.

$$\frac{K}{K_{12}} = \frac{K}{K_{12}} \times \frac{12^3}{30^3} = \frac{1}{15}$$