Container Specification

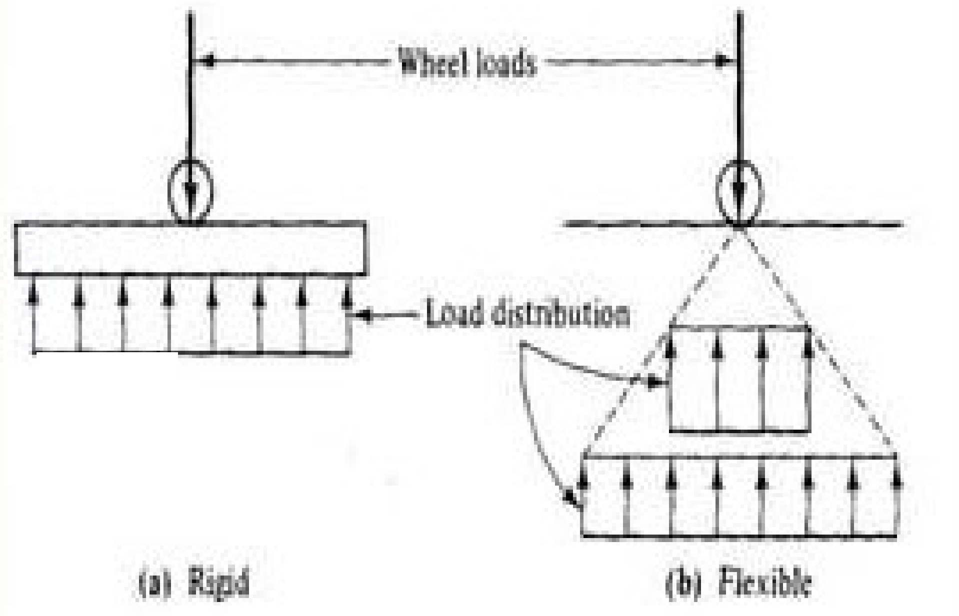
(a) With Straddles

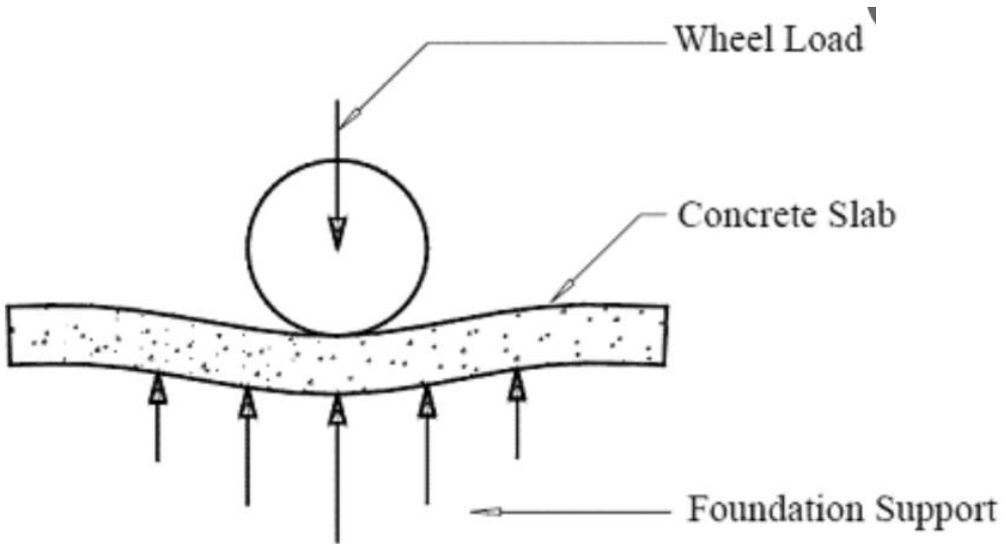
(b) With FEL (Reach Stacker)

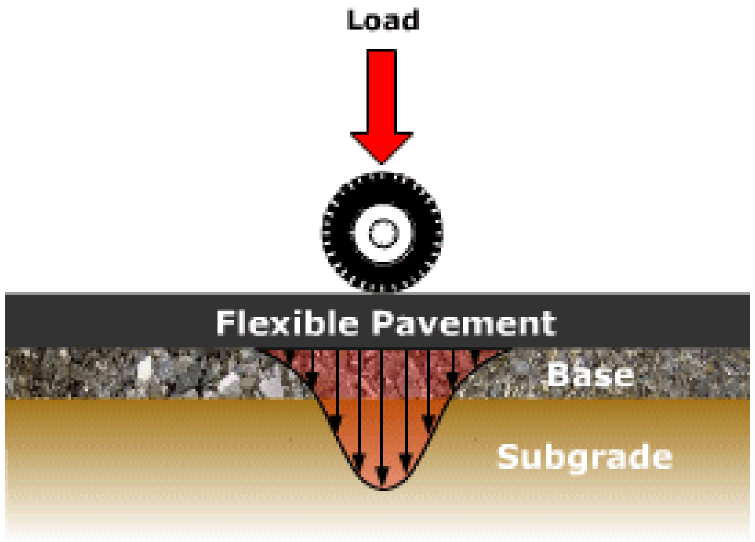
7-8 ชั้น
35 ตัน/ชั้น
5.8 ตัน/ตรม/ชั้น
สูงสุด 8 ชั้น = 46.5 ตัน/ตรม

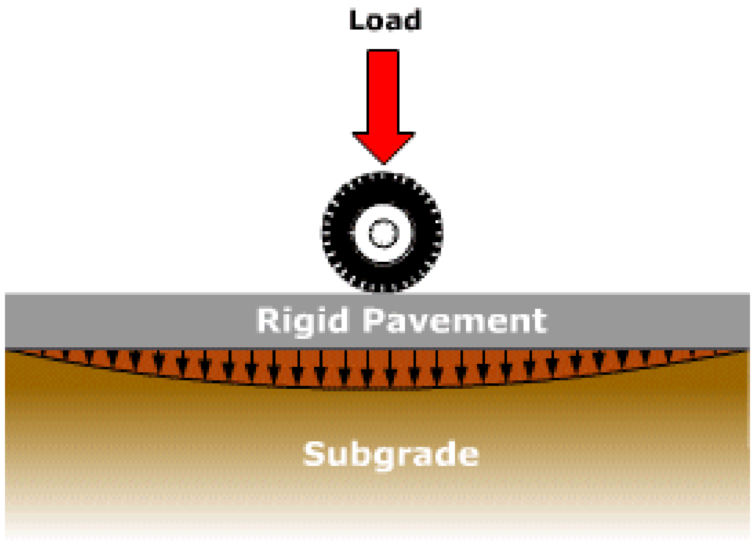
4-5 ชั้น
35 ตัน/ชั้น
5.8 ตัน/ตรม/ชั้น
สูงสุด 5 ชั้น = 29 ตัน/ตรม

Container type	External dimensions (Length x Height x Width)	Internal Dimensions (Length x Height x Width)	Door Opening (Width x Height)	Cubic Capacity	Cargo Weight	Tare weight
40-ft container	12.192 x 2.591 x 2.438 m 40' 0" x 8' 6" x 8' 0"	11.998 x 2.350 x 2.330 m 39' 4.375" x 7' 8.5" x 7' 7.73"	2,33 x 2.59 m 7′ 7″ x 7′ 5″	66 m3	30,480 kg 67,200 lbs	3,740 kg 8,250 lbs
40-ft high cube container	12.192 x 2.896 x 2.438 m 40' 0" x 9' 6" x 8' 0"	11.998 x 2.655 x 2.330 m 39' 4.375" x 8' 8.5" x 7' 7.73"	2.33 x 2.59 m 7′ 7″ x 8′ 6″	76 m3	30,480 kg 67,200 lbs	4,150 kg 9,150 lbs









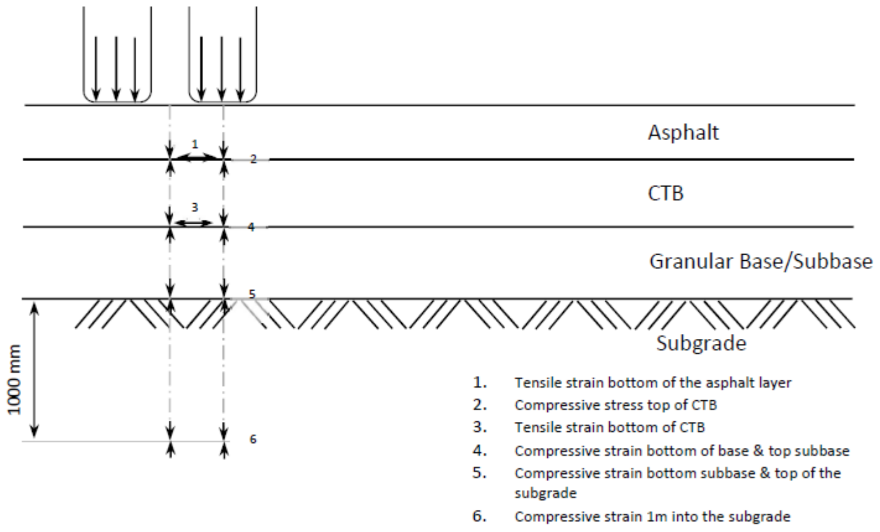
Stress Distribution

Pavement response to load is calculated using multi-layer analysis, all pavement materials are considered homogeneous and isotropic and have a Poisson's ratio of 0.35, except CTB and bedrock layers, where a value of 0.2 should be used with modulus characterised in steps 8-12.

The critical locations of strains within the multi-layer system are as follows:

1. Tensile Strain bottom of the asphalt layer
2. Compressive stress on top of CTB (if required)
3. Tensile strain bottom of the CTB layer (if required)
4. Compressive strain bottom of the base & top subbase
5. Compressive strain bottom subbase & top of the subgrade
6. Compressive strain 1 m into the subgrade

Strains should be calculated under the centre of the tyre and the centre of the tyres for dua tyres.



Strain in multilayers

4 Guide to the Characterisation of Pavement Materials for Terminal Design

4.1 Introduction

The design guide has been developed to allow the designer to select between several materials to determine the most appropriate flexible pavement from a number of options. This choice should be based on the structural requirements, economics, durability, material availability and construction considerations. In general, the guide classifies materials into four main categories:

a) Unbound granular materials (including subgrade)
b) Bound (cemented) materials
c) Asphalts, including grout filled asphalt
d) Concrete Block Pavers (CBP)

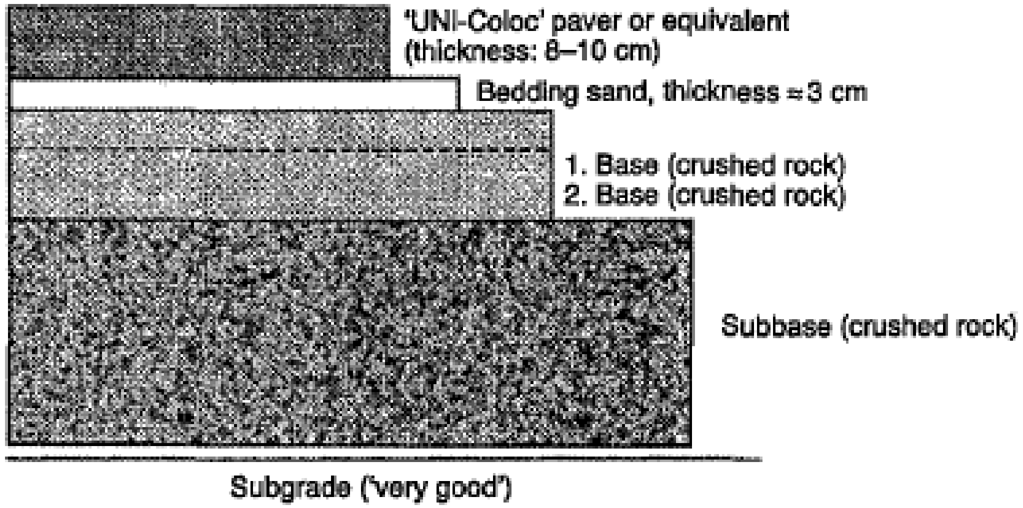


Fig. 12.9. Typical construction for subgrade of CBR ≈ 25 per cent or more

Table 12.1. Construction layer and materials for CBR ≈ 25 per cent or more

Construction layer and type of materials	Thickness in cm
Pavement: inter-locking pavers	8–10
Pavement: rectangular pavers	10–12
Bedding layer (crushed rock: 0–8 mm)	3
1. Base (upper) (crushed rock: 0–30 mm)	5
2. Base (lower) (crushed rock: 0–60 mm)	10
Subbase (crushed rock: 0–150 mm)	30
Other	–
Subgrade	Existing

1.7 Asphalt Surface Requirements

Asphalt surfacing layers should be compacted to a uniform dense surface. If this is not achieved and the surface is open, the high shear forces under turning motion of container handling equipment may cause the asphalt to ravel. This is especially true on new asphalt mixes where loading has not closed the asphalt surface. This risk is increased by the preference of some asphalt suppliers to use 20 mm mixes over 14 mm in wearing course mixes for rut resistance. To limit this risk, suppliers need to ensure rolling patterns are sufficient to ensure that a uniform dense impermeable mix is achieved, as shown in Figure 1-8.

(a) Ravelling due to “open” texture (b) Dense uniform surface

Figure 1-8 Un-controlled Deformation

Deflects on paving surface

(a) Unstable asphalt (shoving and de-compaction) (b) Unstable asphalt (de-compaction and spalling)

Figure 1-7 Un-controlled Deformation

(a) Fatigue cracking in concrete pavement (b) Fatigue cracking leading to surface disintegration

(c) Fatigue cracking with Surface Deformation (d) Fatigue cracking with Surface Deformation