

BRIEF FOR PAVER BASE DESIGN

Sub-Grade/ Soil Preparation-

1. The Sub-Grade/ Soil must be free from any organic matter. Please carry out cleaning where necessary.
2. Always Compact the Sub-grade /Soil before starting any filling.
3. If the Sub-grade CBR is less than 5, (normally all Black Cotton Soils), you need to either:
 - i. Stabilize the soil by treating with Fly-Ash/Lime
Or
 - ii. You may need to have a capping/separation layer to separate the weak Sub-grade from the base layers.

In any case, you must adequately compact (carry out rolling) the Sub Grade before starting the filling.

For Filling

1. Ensure use of non expansive soils only as fill material.
2. If possible use Murrum.
3. It is absolutely necessary to compact the fill material in layers too.

Base Materials

1. Use only quarry materials for construction of base.
2. Avoid use of any soil (mitti) as a base material
3. Opt for WBM, GSB bases from quarries
4. Normally Maximum size of aggregate (quarry material) need not exceed 50 mm in size.

Base Construction

1. Always compact all fills in layers- never exceeding 250 mm at a time.
2. Use a good heavy road roller. Use as many passes as necessary till you stop seeing movement of the base under roller movement.
3. Compaction should be atleast 95% modified maximum dry density for sub base and atleast 98% modified maximum dry density for base.
4. For base, minimum CBR =80, for Sub-base, minimum CBR =30.
5. Always water only enough to get to Optimum Moisture content. Do not over water or under water during compaction. Do not carry out flooding of the base materials before compaction. It does not help, rather it is harmful.
6. Keep a slope of at least 1.5 % on longitudinal side and 3% on cross side while constructing the base.
7. Accuracy in base construction is necessary. You cannot compensate the discrepancies in base level by sand filling.
8. The base should have a fairly closed surface when inspected visually.
9. Finish the base at approx 100 mm below finished level for 60 mm thick paver and 120 mm below for 80 mm thick pavers.
10. Provide for drainage where possible
11. Base thickness must be ascertained by local structural engineer. Generally a minimum of 400 to 500 mm of base is required over a soil CBR of 5 for heavy traffic movement