CORE DRIVE Installation Guide

Subbase Calculation

STEP 1

Use the table opposite to determine the CBR% value of your subgrade once you have carried out either the tactile, visual or mechanical test.

CBR % VALUE INDICATOR

CONSISTENCY	IDENTIFYING FACTOR			STRENGTH	
	Tactile (feel)	Visual (observation)	Mechanical (test) SPT	CBR %	CU kn/m²
Very Soft	Hand sample squeezes through fingers	Man standing will sink >75mm	<2	<1	<25
Soft	Easily moulded by finger pressure	Man walking sinks 50-70mm	2-4	Around 1	Around 25
Medium	Moulded by moderate finger pressure	Man walking sinks 25mm	4-8	1-2	25-40
Firm	Moulded by strong finger pressure	Utility truck ruts 10-25mm	8-15	2-4	40-75
Stiff	Cannot be moulded but can be indented (thumb)	Loaded construction vehicle ruts by 25mm	15-30	4-6	75-150

STEP 2

Next, use this table to help you identify your intended traffic load according to vehicle size and frequency.

INTENDED TRAFFIC LOAD

VEHICLE TYPE → / TRAFFIC FREQUENCY ↓	DOMESTIC VEHICLES	COMMERCIAL VEHICLES	HEAVY GOODS VEHICLES
LOW FREQUENCY < 10 per day	LIGHT TRAFFIC	MEDIUM TRAFFIC	HEAVY TRAFFIC
MEDIUM FREQUENCY 10-20 per day	MEDIUM TRAFFIC	MEDIUM TRAFFIC	HEAVY TRAFFIC
HIGH FREQUENCY > 20 per day	HEAVY TRAFFIC	HEAVY TRAFFIC	HEAVY TRAFFIC

STEP 3

Lastly, use the CBR% value and traffic type you have identified to calculate the depth of subbase required for your project.

SUBBASE CALCULATION

CBR (%) STRENGTH OF EXISTING SUBGRADE	LIGHT TRAFFIC	MEDIUM TRAFFIC	HEAVY TRAFFIC
>6	100 mm	110 mm	120 mm
= 4 < 6	100 mm	125 mm	150 mm
= 2 < 4	135 mm	165 mm	200 mm
= 1 < 2	260 mm	330 mm	400 mm

The table above indicates typical subbase thicknesses required depending on the subgrade CBR value and intended traffic load. Please note this is intended as a general guide in accordance with BS7533.
For further details on permeable paving design please refer to BS7533 Part 13; for installation refer to Part 1. The design for build up should satisfy two parts; firstly to support the intended traffic load and secondly to manage surface water.