

**Can vehicular traffic run on Concrete Cloth?**

Yes, if the supporting soils are stiff enough. ***How stiff is stiff enough?*** A graduate student has actually gone to the trouble of quantifying just how stiff is stiff enough (Tamsin Robbins-Hill, 2011). A commonly used measure of soil stiffness used for roadways and parking lots is CBR or California Bearing Ratio. In-place soils that had a CBR of 10 or greater were found to be stiff enough to provide good support for traffic on top of Concrete Cloth.

***What does a CBR of 10 look like?*** Many geotechnical engineers will conduct a “proof roll” to assess subgrade stability before allowing a parking lot to be paved or before allowing the base course for a roadway to be placed and compacted. A “proof roll” involves rolling a 40 ton dump truck slowly over the ground while an engineer looks for any rutting, deflection or depressions and marking those areas. Typically any “soft” areas are covered with a well-graded gravel layer (a well-graded gravel layer is one with soil particles ranging from fine to large that can be well compacted) which may include being covered with a geotextile or geogrid and then a gravel layer. A soil or gravel layer that passes a “proof roll” where a fully loaded truck does not cause any rutting, deflection or depressions has a CBR of about 4 or 5. A soil or gravel layer that has a CBR of 10 is stiff enough to resist rutting, deflection, or depressions even after multiple passes of a fully loaded truck.

**Can Concrete Cloth be placed in a ditch if the soils are soft?** Before Concrete Cloth is hardened, it will conform to whatever shape it is placed in. If one steps on Concrete Cloth when it is soft it will deform into the soft soil. As a general rule, if your boots sink an inch or more when walking on a soft soil, you may want to avoid walking on the Concrete Cloth when installing it over a soil that soft.

***What will happen to the Concrete Cloth if I step on it while installing it over very soft soils?*** It will deform and keep that shape when it hardens. Walking on the soft Concrete Cloth during installation will stretch the Concrete Cloth, potentially pulling it away from overlaps and out of anchor trenches. Typically, fixing the Concrete Cloth at the edges and at overlaps or butt joints is greatly compromised.

***What should I do if I am installing Concrete Cloth over very soft soils?*** It is recommended that walking on the soft Concrete Cloth be avoided during installation or place boards down to spread foot traffic loads over larger areas, or add a layer of well-graded gravel for support.

**Can Concrete Cloth be effective for steep slope stabilization applications??** The simple answer is that it depends upon the soil properties and whether a soil stabilization method is in place.

To be clear it is emphasized that Concrete Cloth only provides erosion control for the face of the slope. When a slope becomes too steep slope stabilization measures need to be taken to prevent a slope failure. Soil anchors and soil nails are just a few measures that can be employed to stabilize a slope. These soil anchors and soil nails can be used in conjunction with Concrete Cloth as a surficial protection layer. Some of the soil properties that determine whether a slope is stable or not, are the cohesion and the angle of internal friction of the existing slope soils. Soils with high cohesion or high inter particle friction allow for very steep slopes while soils with low cohesion or low inter-particle friction are not as stable. Wet soils typically are not as strong.

Most soils are stable without any additional stabilization treatments at a slope angle of 2H:1V plus or minus. Concrete Cloth used in conjunction with soil anchors or soil nails may be used on much steeper slopes. As a general rule, when a slope gets steeper the length of the soil nails or soil anchors needs to be longer to assure slope stability. The load capacity of the soil nails or soil anchors may need to be greater as well. With a given set of soil properties and at some slope angle there would begin to be soil pressure on the back of the Concrete Cloth that would need to be designed for.

**Can anyone simply stabilize a slope using Concrete Cloth?** While it is possible that Concrete Cloth used in association with other slope stabilization techniques can successfully stabilize an unstable slope, these applications must be designed by a practicing geotechnical engineer.

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