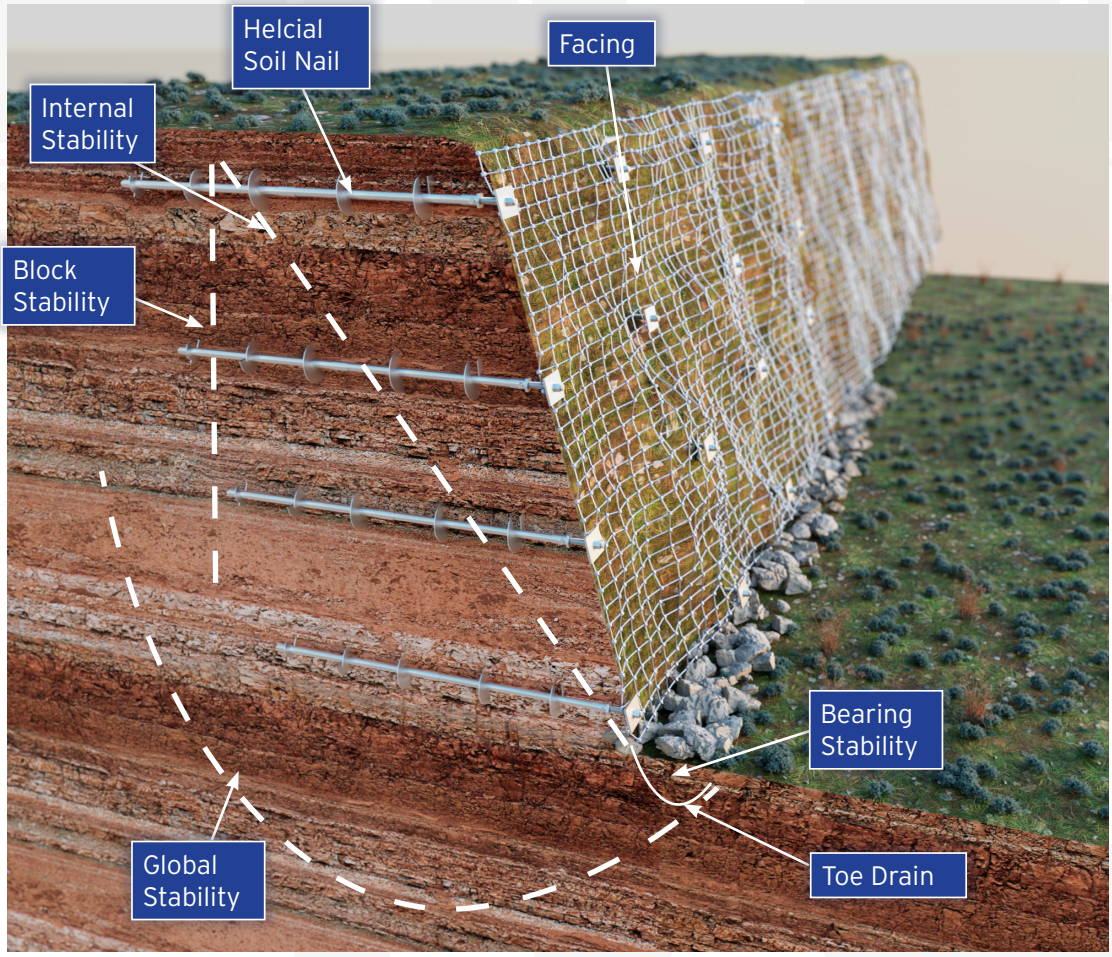
MAGNUM® Helical Soil Nails

Continuous Bonded Helical Anchors for Soil Reinforcement Used in Earth Retention and Slope Stabilization

Description: As can be seen in the figure, soil nailing is the process of using helical shafts to reinforce slopes and blocks of soil for earth retention and stabilization. Helical soil nails have helical bearing plates spaced along the entire length of the shaft for continuous bonding with the soil. As opposed to grouted anchors which are generally 4 to 6 inches in diameter, helical soil nails mobilize a bonded diameter that is 8 or 10 inches in diameter for a greater reinforcing effect. Soil nailing permits the use of relatively thin shotcrete facing or steel mesh to prevent raveling between nails as opposed to the heavy reinforced facing required for soil anchor walls. Since helical soil nails are intended for earth reinforcement, the termination criteria for the anchors is based on length as opposed to minimum installation torque. Soil nail lengths then are fixed length (typically 0.7 to 0.8 times the slope/wall height). Fixed length allows for the shafts to be manufactured with an integrated thread bar adapter. There is no need to cut-off and re-drill the shaft. Helical soil nails have many advantages over traditional grouted soil nails. Installation is very rapid. There are no issues with caving soils and/or groundwater, and there is no waiting for grout to set.



Designation	Shaft Diameter (in)	Helix Diameter (in)	Corroded Gross Area of Shaft (in^2)	Max. Allowable Tensile Strength (tons)	Max. Allowable Shear Strength (tons)
MHL313BN12K8D8D8D8D8DG	3	8	1.1	11	5
MHL313BN12K10D10D10D10D10DG	3	10	1.1	11	5

Note: Specification table provides two examples of helical soil nail sizes. Other lengths and sizes available.

MAGNUM PIERING
designed to support

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