

SPECIFICATION

Groove-inlay Slot Cutting Equipment Requirements for Preparing a Grooved Inlaid Slot to Recess Pavement Markings (Long, Short, Transverse and intersection, Legends and Symbols)

Equipment and Operators shall be approved and certified to perform the work.

Approved equipment shall be capable of producing the total groove dimensions and base profiles in one or multiple passes that are uniform and consistent dimensional width, depth, straightness and surface finish. The equipment shall produce minimal surface vibration to prevent micro-cracking on the target pavement surface. The final groove tolerance shall reveal a consistent profile (refer to SP1-SP10 profile scale at <http://smithmfg.com/profiles.php>) designed for the new coating, binder or preform marking system to bond. The equipment shall be capable of this on a wide range of surface conditions.

The equipment shall be capable of at least a 16" width groove in a single pass using Dry-cut diamond segmented multi-surface blades stacked or ganged on an arbor. The arbor should be capable of mounting a variety of blade types designed for the surface hardness and treatment of the target medium. The cutting blade package shall vertically cut a controlled groove of specified width and depth with special emphasis on the groove base or bed. The base is to be profiled flat or with slight lateral undulations (less than a 10 mil rise variance in the SP profile scale (SP1 - SP10) per the installed marking material requirement. The spacer gap between each stacked blade shall be such that will produce less than a 10 mil rise variance in the finished groove between the blades. The equipment shall be capable of quickly field replacing diamond drum arbors in less than 15 minutes

The equipment shall include a twin independent pitch and depth control mechanism along the cutter drum axis to hold uniform depth consistencies for single and multiple inline passes without continual operator adjustment. This allows a repeatable seamless overlap for one or multiple passes to complete the final specified groove width and length. Control mechanisms shall be capable of adjustments as fine as .010" (10 mils) minimum.

All airborne dust from the grooving operations shall be contained and HEPA filtrated to protect operators and work environment. The removed asphalt or concrete material shall be extracted from the grooved slot with a secondary vacuum hose attached to the equipment. Any remaining materials shall be collected with a secondary operation. Prior to the installation of the marking material, all remaining loose materials or debris must be removed using a vacuum or compressed air or blower as long as it does not create a nuisance. If the slot is exposed to traffic or adverse weather conditions overnight, the Contractor shall clean and dry the groove slot prior to priming and applying the marking materials.

The equipment shall not be manually propelled but will include a hydraulic drive system with variable speed controls to ensure uniform and consistent width, depth, straightness and surface finish. To confirm the pre-set cut depths are accurate, depth plates shall be provided by the contractor.

The approximate working removal speed for grooving Asphalt/Concrete at 100 mills using a 40HP power unit and our 12" diameter diamond multi-surface combo blades are as follows: (a) 5" cut path 800 – 1050 Ft/Hr (b) 16" cut path 500 - 600 Ft/Hr (c) 25" cut path 250 - 325 Ft/Hr