



## **Mineralogical and Microstructural Controls on High Polished Stone Value (hPSV) Aggregates from a Mixed Metasedimentary and Volcanoclastic Source.**

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High Polished Stone Value (hPSV) aggregates are a valuable resource in the manufacture of skid-resistant surfaces (pavements). Previous studies have tried to define the essential properties required within a specific rock type that makes it suitable as hPSV aggregate. There are also quantitative tests that can assign a standardised value to the polishing resistance of each aggregate (PSV or Werner-Schulze (WS) methods). It is widely assumed that particular rock-types are more suitable as hPSV aggregate, including greywacke, basalt and sandstone. These rock types are usually suitable due their durability, strength and a mineralogy that allows the removal of grains from the wear surface, enabling the microtexture to 'refresh' itself periodically.

This project has examined a mixed group of low-grade (sub-greenschist) metasediments and volcaniclastics from a single source that all yield similar hPSV values (59-66). Samples were measured in terms of mechanical, petrographical and metrological properties from freshly crushed aggregate, mechanically polished aggregate and 'in-situ' road samples to follow the development of surface microtexture under different conditions.

The study has shown that the development of microtexture within a mixed group of rocks can be controlled by microstructural factors (in addition to mineralogical factors) thus providing a new criteria for the exploration of high PSV sources.