

The Search for Polish Resistant Aggregates

Clare Dring

Fulton Hogan Technical Services, Christchurch

Jeff. C. Waters

Fulton Hogan Technical Services, Christchurch

Aggregate requirements for New Zealand State Highways changed significantly in the 1990's when Transit New Zealand began testing the skid resistance of their entire sealed road network. Many good quality hard wearing locally sourced sealing chips that had been used successfully for many years were found to be susceptible to polishing stresses resulting in low skid resistance in areas with polishing stresses. Many of these quality aggregates lacked the microtexture required to provide the target skid resistance on medium to high demand areas.

Most New Zealand sources are either hard rock or alluvial gravels with greywacke the main aggregate type. Many of the greywacke aggregates produced from these sources have low-medium polish resistance and very few with high polish resistance so a project was initiated to search New Zealand and find natural sources with high polish resistant aggregates.

Students studying their Masters Degrees at Canterbury University in 2014 and 2015 were tasked first with developing a methodology for finding high polish resistant aggregates and then implementing the methodology. This paper describes the methodology developed and findings to date.