

Ausphalt.™

Ausphalt™ is a proprietary name given by Rich River Asphalt to a suite of Dense Graded Asphalt Designs which contains Recycled products.

The recycled products generally in use are RAP (Reclaimed Asphalt Pavement), Glass, Plastics and Tyre rubber. These can consist of different percentages of some or all of each product, depending on the Customers requirements. Can be from 3% to 30%.

It is widely recognised that incorporating rubber into the asphalt will improve the rutting resistance and fatigue cracking due to the modified binder's higher viscosity and elasticity. Temperature susceptibility is also reduced due to the inclusion of Carbon Black which is in the crumbed rubber. The Carbon Black acts as an antioxidant and raises the softening point of the binder. In general, the higher percentage of rubber gives better results in mitigating reflective cracking in the pavement. One car tyre after the removal of wire and fabric then crumbing weighs about 7.5kg. At 0.6% crumbed rubber by total asphalt weight, there would be 67 car tyres used in 100 tonnes of asphalt.

Plastics are currently limited to a smaller inclusion in the asphalt design, as they are quite viscous to handle with the Bitumen pumps. Coarser graded plastics have been used as aggregate replacement by some overseas companies, but there is some concern of microplastics entering the environment. Some countries have stopped the use of plastics in asphalt subject to ongoing tests.

Glass is used as a direct substitute for sand in the mix designs. This can be used at varying percentages, generally from 2.5% to 15%. Glass inclusion gives no extra improvement nor any less improvement when used.

Glass is solely used to eliminate the huge waste that is currently heading into landfill, like tyres. One small bottle (stubby) weighs approx. 177gms, so at 5% usage in a tonne of asphalt we would be eliminating 282 stubbies.

The RAP inclusion makes for a slightly stiffer mix and when used in larger percentages will need a rejuvenator added to aid with the higher oxidation of the RAP material to improve workability. Rich River Asphalt only uses a maximum 20% RAP to eliminate this problem. The usage of RAP is extending the use of virgin materials being quarried and there is a lesser requirement for bitumen usage in the asphalt designs. Both extending the life of these two resources.

There are comprehensive Quality Management Plans required to be submitted and agreed by D.O.T. (VR) before the use of the recycled materials on State Authority Roads.

Ausphalt™ is designed to meet D.O.T. (VR) specifications, but the Rich River Asphalt Laboratory (NATA accreditation 19905) is very capable of designing asphalt mixes that will meet our Customers requirements.