



USED FOR



Flushing



Life Extension



Rutting



Cracking



Waterproofing

ENVIRONMENTS



Residential



Rural



Motorway

AntiFlush Seal

Prevent flushing + enhance road durability.

AntiFlush Seal is a high-performance bitumen emulsion designed to combat flushing by sealing off water vapour venting through chip seal layers.

AntiFlush Seal is reinforced with premium polymers and binders, it forms a strong, flexible, and waterproof membrane that prevents bitumen migration and surface bleeding. Its highly elastic properties allow it to deform under pressure without perforating, ensuring long-lasting pavement stability.

Engineered to withstand extreme weather temperature variations and heavy traffic, AntiFlush Seal enhances road longevity by resisting bitumen flushing, wear, moisture infiltration, and surface deterioration.

What is flushing?

Flushing occurs when bitumen in the road layers refuses to stay put, and migrates to the surface. This phenomenon is driven by frequent temperature fluctuations, where trapped moisture within the pavement evaporates, increasing water vapour pressure beneath the road and pushing bitumen to the surface. The issue becomes particularly problematic during the height of summer, when the relentless New Zealand sun can turn roads into a sticky, deteriorating mess.

Where to use AntiFlush Seal

Chip sealing application on sites characterised with:

- Low texture
- Multiple seal layers (4+)
- History of flushing resulting in seal failure within 2 years

Benefits

- Prevents flushing
- Practical solution
- Extended seal lifespan
- Safe application
- Standard sprayer compatibility

Specification

Typical properties of AntiFlush Seal

Property	Method	Specification
Binder content	In-house method	71%



Handling

For safe handling of bituminous materials, please refer to the [Best practice guideline: Safe Handling of bituminous materials used for roading \(BPG01\)](#)

AntiFlush Seal	
Normal handling, spraying, and pumping temperature	45 - 55°C
AntiFlush Seal must be always be handled within the temperature range of 45 - 55°C. Where practical target 45°C to help minimise skin formation. Do not exceed 60°C	

AntiFlush Seal is a water-based system and as such care should be taken with regard to risks associated with rain and runoff. Normal environmental control precautions for the use of emulsions should be taken. Following spraying operations, the post-spraying cleaning process must be completed as soon as practical and within 24 hours of use to minimise residue build-up and avoid blockages. All remaining AntiFlush Seal should be sprayed or pumped out, ensuring no product remains in the tank. If required, the remaining product may be transferred to IBCs. The sprayer tank should then be reloaded with standard emulsion to at least the same level and recirculated for a minimum of 30 minutes to soften any remaining AntiFlush Seal residue. Once complete, the tank, spray bar, hand lance, and pump should be thoroughly flushed with the standard emulsion and emptied to complete the cleaning process.

Circulation

Minimise AntiFlush Seal pumping and recirculation. Recirculate only for the time required to warm and prepare the spray bar, typically 5 to 10 minutes. Confirm the product temperature is at least 45°C before pumping or recirculating.

Heating

If you do need to reheat AntiFlush Seal emulsion, then this needs to be undertaken slowly with the rate of heating not exceeding 10°C per hour. Never heat beyond 60°C.

Need more information?

At Road Science, we're committed to providing innovative solutions backed by engineering expertise. If you have any questions about this product, need technical guidance, or want to discuss how it fits your specific project needs, our team is here to help. Contact us today for expert advice and tailored support. Contact us via **0800 180 200** or visit our website at roadscience.co.nz to learn more.

Curing

AntiFlush Seal has a longer curing window than standard bitumen emulsions. The option of using AntiFlush Seal is available in [Zeus](#), Road Science's targeted weather insights tool. Zeus should be used to support application planning but does not replace site-specific assessment and decision making. As a general guide, allow at least 2 hours before reopening the site to traffic, subject to site conditions and field observations.

Storage

AntiFlush Seal	
24 hours maximum tanker/sprayer unit.	45 - 55°C
The product can be kept for a maximum of 24 hours per transport/storage/spray unit. Never allow AntiFlush Seal to freeze, or to be recirculated over an extended period of time as the emulsion quality will degrade. Always keep the spray bar full after each run and overnight. Only empty once spraying is complete and the aftercare process is initiated.	

Application

AntiFlush Seal is applied using a catalogue 4/6 sandwich seal design with a wet application rate of 2L/m². AntiFlush Seal can be applied using a standard sprayer with bitumen nozzles and a 4mm filter.

AntiFlush Seal Application Rate	
Wet application rate	Residual binder application rate
2L/m ²	1.4L/m ² residual
Critical: Wet emulsion rate must be as noted above in order to guarantee membrane strength	

Treatment Design

If you're unsure which treatment solution is best suited for your project — considering factors such as traffic volumes and asset management — consult a member of the Road Science Product Development Team. They can assist in determining the appropriate treatment selection and guide you through the mix design process.

Sampling

For managing bitumen quality, please refer to the [Waka Kotahi NZ Transport Agency Q05 specification for managing bitumen quality report](#)