A GUIDE TO ROADBASE

& QUALITY ASSURANCE

This guide is designed to help you maximise the performance of Hunter Quarries' roadbase materials - DGB20, DGS20, and SMZ20.

Our products meet Transport for NSW (TfNSW) specifications and are known for their low Plasticity Index (PI), which enhances stability and load-bearing capacity.

While this guide provides general recommendations for using our materials, always consider specific site conditions and consult with project engineers to ensure the best outcomes for your project.

SMZ20

Select Material Zone 20mm

Spec: TfNSW 3071

Preparation: Ensure the area is free from debris and adequately compacted before placing SMZ20.

Placement: Place the material in layers not exceeding 250mm compacted thickness.

Compaction: Adjust the moisture content to ensure proper compaction. Use appropriate compaction equipment such as plate compactors or light rollers for surface layers.

Testing: Perform field density tests to ensure compaction to specification.

DGS20

Dense Graded Sub-base 20mm

Specification: TfNSW 3051 Ed. 7

Preparation: Ensure the subgrade is properly compacted and graded before placing DGS20.

Placement: Lay the material in layers not exceeding 300mm compacted thickness.

Compaction: Use vibratory rollers for deep compaction, ensuring each layer is compacted to specification.

Testing: Perform field density tests to ensure compaction to specification.

DGB20

Dense Graded Base 20mm

Spec: TfNSW 3051 Class 2

Preparation: Ensure the subgrade is properly compacted and graded before placing DGB20.

Placement: Spread the material uniformly in layers not exceeding 200mm compacted thickness.

Compaction: Achieve optimal compaction by adjusting the moisture content to the specified Optimum Moisture Content (OMC). Use heavy rollers for compaction, ensuring each layer is compacted to specification.

Testing: Perform field density tests to ensure compaction to specification.

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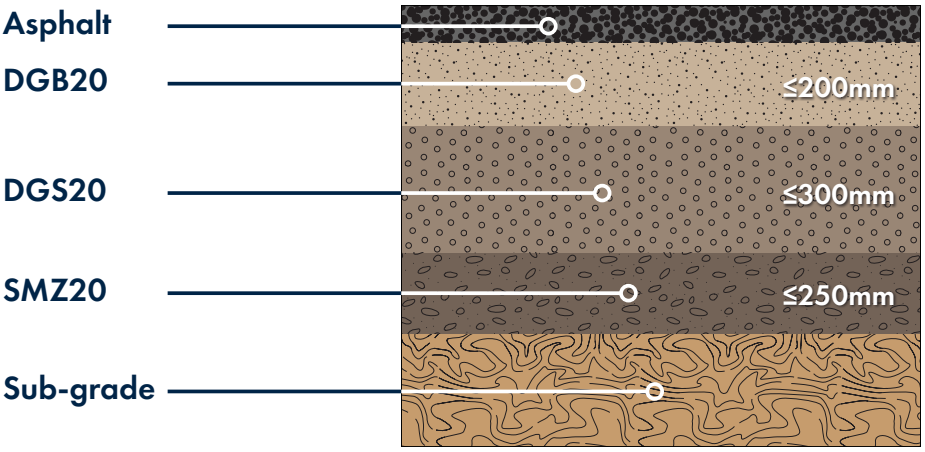
Typical Pavement Profile*

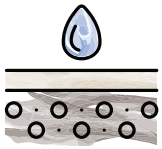


*Profile as an example for illustrative purposes only.

Usage Recommendations

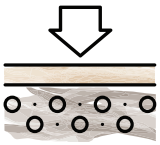
Sampling and Testing

Ensure consistent material quality. Hunter Quarries samples and tests materials according to TfNSW specifications to ensure consistency.



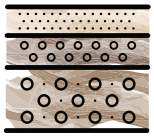
Moisture Content

Maintain optimal moisture content during compaction to achieve maximum dry density. Regularly check and adjust moisture levels to match the specified Optimum Moisture Content (OMC).



Compaction Equipment

Use suitable compaction equipment, such as rollers or plate compactors, to achieve the desired compaction level. Ensure equipment is well-maintained and calibrated for consistent performance.



Layer Thickness

Place materials in uniform layers with appropriate thickness to ensure even compaction. For DGS20 and DGB20, follow specified layer thickness guidelines to avoid differential settlement.

Quality Control

Perform regular on-site quality control checks to ensure compliance with specifications. Address any deviations promptly to maintain material integrity and performance.

Environmental and Site Considerations

Weather Conditions:

Consider the impact of weather on construction. Wet conditions can affect moisture content and compaction, while dry weather may necessitate adding water to maintain optimal moisture levels.

Site Machinery:

Use machinery that is appropriate for the material type and volume being compacted. Well-maintained equipment ensures consistent compaction.

Local Regulations:

Follow local construction regulations and guidelines to meet safety and quality standards.

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Conclusion

This guide supports the optimal use of Hunter Quarries' roadbase materials, ensuring superior performance and longevity in your projects. By following the specifications and best practices for DGB20, DGS20, and SMZ20, you can enhance the stability and durability of your construction work.

Our commitment to meeting TfNSW specifications reflects our dedication to quality and reliability. Consult with engineers and experts to tailor these recommendations to your specific site conditions.

For further assistance, contact our technical support team. We look forward to supporting the success of your projects.

DGB20 blending

Transport for New South Wales (TfNSW) Testing

Test Method	TfNSW No.	DGS20	DGB20	SMZ20
Particle Size Distribution	T106 & T107			T106 only
Atterberg Limits	T108 & T109			
Maximum Dry Density and Optimum Moisture Content	T111 & T120			
Maximum Dry Compressive Strength	T114			
California Bearing Ratio (CBR)	T117 & T120			
Particle Shape 2:1	T213			
Wet/Dry Strength Variation	T215			

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