

MetalMaxx® Stabilised Pavement Aggregate



Aggregates
RANGE. QUALITY & SERVICE

Description

New Zealand Steel's MetalMaxx® is a pavement construction material manufactured from New Zealand Steel's co-products. The co-products are derived from the steel making process, for which raw materials include; coal, limestone and iron sand.

MetalMaxx® is a blend of iron making or "Melter" Aggregate and steel making aggregate.

With addition of sufficient quantities of water and proper compacting, the product will stabilise producing a hard, durable surface suitable for many surfacing applications such as:

- Rural driveways.
- Hard stand areas.
- Parking areas.

Limitation of use and application

MetalMaxx® is a **low cost surfacing option** available for pavement design and construction. MetalMaxx® is neither a cement concrete nor an asphaltic concrete and cannot be expected to perform to the standard of these higher cost solutions, in terms of surface finish or durability.

The durability of the surface will depend on the vehicles using the area and the construction technique used by the contractor. The addition of a chip seal coat to prolong life and give additional weather proofing has been found to be beneficial.

Whilst every effort is taken to ensure a thoroughly homogeneous mix, the "bucket mixing" process of the two component materials will be subject to some variability.

MetalMaxx® is **not recommended** for use in the following applications:

- as a basecourse with the product subsequently surfaced with an asphaltic concrete (hot or cold mix) or cement concrete.
- as a subbase or basecourse with the product being laid directly onto the subgrade.
- on steep driveways or in areas where the product will be subjected to heavy vehicles (milk tankers, delivery trucks, forklifts etc), or heavy traffic flow.
- areas, such as under trees, where it will be exposed to regular dripping water.

General Construction Guidelines

MetalMaxx® must be applied by suitably qualified personnel with the appropriate equipment for pavement construction.

In addition to the procedures, techniques and equipment that would be required for pavement construction generally, New Zealand Steel makes the following recommendations specific to the MetalMaxx® product:

1. MetalMaxx® must be laid over a previously prepared basecourse that has been properly graded and compacted, including a surface crown to promote water run-off.
2. The separation between subgrade and MetalMaxx® surfacing must be at least 200 mm.
3. The MetalMaxx® must be laid at a sufficient depth to take into account the largest aggregate sizing in the mix. For MetalMaxx®20 this is recommended to be a minimum depth of 80 mm (after compaction).
4. The provision of adequate drainage to prevent scouring of the surface will increase the service life of the product.
5. The addition of sufficient water is critical to ensure that the complete layer is saturated and water is available for the stabilization process. Application by hose has been found to produce variable results and is not recommended. The use of a water cart is strongly advised.
6. During saturation it is essential that product is also thoroughly compacted by roller for large areas, or in tight areas, by hand held compactor, with the aim to create a "slurry" on the surface of the pavement.
7. Once the entire pavement is fully saturated and the "slurry" formed, a final rolling and compaction is required to create the final surface condition.
8. The Contractor should also give consideration to the weather. The onset of heavy rain immediately following construction may prevent, or delay, full stabilization of the product. MetalMaxx® might also take longer to set in cold weather.
9. The addition of other cementitious materials such as cement or lime to the mix is not recommended.



For more information about New Zealand Steel Aggregates phone 0800 762 586 or visit www.Aggregates.co.nz

The Stabilisation Process and Stabilisation Time

After an approved construction process, MetalMaxx® will not stabilise immediately. The time required for the product to stabilize and produce a hard surface varies with temperature and therefore the season. Typically a surface which can be driven on will be available:

- Within 7 days if construction was during the summer months of December to May.
- Within 30 days if construction was during the winter months of June to November.

The product will continue to stabilise and be fully hardened after a period of 3 months.

Construction guidelines 5, 6 & 7 above are especially important. The stabilization process is a chemical reaction between water and lime based chemicals within the MetalMaxx®.

If insufficient water is added during construction then water will be absorbed from the environment potentially resulting in expansion of the pavement after construction.

Pavement Repairs

Small pot holes can be filled and re-established using the techniques described above.

Reinstatement of older surfaces usually involves a thorough breakup of the existing layers, followed by the addition of at least the recommended minimum thickness, which is 80mm for MetalMaxx®20. Depending on the state of the existing driveway, a full dig out and replacement should be considered.

Supply & Availability

MetalMaxx® is only available through approved contractors. It is not available to the general public.

New Zealand Steel does not produce MetalMaxx® during the months of July to October.

Approved Contractors are advised to pre-order material, two days in advance to ensure availability.

Typical Application of MetalMaxx®



Compaction Roller following a water cart.

Typical Appearance of MetalMaxx®



Driveway with MetalMaxx® used for surfacing

Disclaimer

MetalMaxx® is an unspecified product and accordingly the composition and characteristics of the product may vary. The above are guidelines only, based on the experience of skilled contractors.

NZ Steel accepts no responsibility for the construction, outcomes and serviceability of the product.

Buyers and users of New Zealand Steel products must make their own assessment about the suitability of the products for their own use and conditions. All queries regarding product specification, purpose or application should be directed to New Zealand Steel, phone +64 9 375 8999.

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