

Reborn Aggregates built into real infrastructure

Preserving natural resources



Our products

Blue Phoenix in the UK is the largest producer of incinerator bottom ash aggregates (IBAA) which has been used for over 20 years as a construction material.

Product	Application
Reborn Aggregates MCHW CC 201 6F4	Roads and footpaths
Reborn Aggregates MCHW CC 201 6F5 (Primary Blend)	Roads and footpaths
Reborn Aggregates MCHW CC 201 Type 1 (Primary Blend)	Roads and footpaths
Reborn Aggregates MCHW CC 201 Type 2 (Primary Blend)	Roads and footpaths
Reborn Aggregates MCHW CC 601 6N	Backfill to structures
Reborn Aggregates MCHW CC 601 Class 1A	General fill
Reborn Aggregates 0-20 AGG EN 13242	Sub-base



Features and benefits

Aggregates that have been shown to reduce CO ₂ emissions by 80%*	Preserving natural resources by replacing primary aggregates with a lower carbon alternative	Lower bulk density*: less tonnage needed per cubic metre equals less vehicle movements	Cost-effective construction alternative solution*
Enhanced performance due to cementitious and mild pozzolanic properties	Locally sourced materials		

*When compared against the use of primary aggregates.

Key savings of Reborn Aggregates vs. primary aggregates

Case study: A1331 Elmstead Market Bypass

For National Highways' A1331 Elmstead Market Bypass, main contractor Octavius Infrastructure specified Reborn Aggregates' Type 1 IBAA in place of primary aggregate for the road sub-base, sourced from the Tilbury Depot, Essex. The material was fully compliant with National Highways specifications and matched primary aggregate performance on CBR and compaction testing.

Criteria	Reborn Aggregates	Primary aggregates
Compacted density	1.7 MG/m ³	2.2 MG/m ³
Tonnage required	43,500 t	52,200 t
Truck journeys required	2290	2748
Total CO ₂ generated	214,501 kg (4.03 kg/t)	372,729 kg (7.14 kg/t)
Material cost	Most-effective vs quarried	Higher unit cost per tonne

Key savings vs primary	158,228 kg CO ₂ saved (3.56 kg/t)	52,200 t primary resources saved
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Assumptions: Distance from Primary Quarry (Ipswich Dock Depot, Brett Aggregates) to site is 22 miles
Trucks are assumed to be 100% Laden and only counted one way. Average MPG for Rigid Trucks is 8.2.
IBAA 0.29 kg CO₂/t is specific to the activities & processes at the Tilbury Depot.

Material properties

Reborn Aggregates are regularly and routinely tested to ensure that Blue Phoenix in the UK products meet the necessary requirements outlined with the Highways Agency Specification for Highway Works and relevant European standards (EN 13242, 13285, 13043).

Physical properties

Requirement	Specification reference	Typical value	Requirements of SHW Clause 803 Type 1
Los Angeles test - Resistance to fragmentation	EN 1097-2 : 2010	39	<50
Magnesium sulphate soundness - Resistance to freezing and thawing	EN 1367-2 : 2009	15	<35
Frost heave (mm)	BS812 : Part 124 : 2009	6	<15
Apparent particle density (Mg/m ³)	EN 1097-6 : 2000	2.55	No requirement
Saturated surface dry particle density (Mg/m ³)	EN 1097-6 : 2000	2.30	No requirement
Water absorption (%)	EN 1097-6 : 2000	7.15	No requirement
Optimum moisture content (%)	BS EN 13286-4 : 2003	16	No requirement
Plastic limit (%)	BS 1377 : Part 2 : 1990	Non-plastic	Non-plastic
Bulk density loose (Mg/m ³)	EN 1097-3 : 1998	1.24	No requirement
Bulk density compacted (Mg/m ³) (Rodded)	EN 1097-3 : 1998	1.37	No requirement
OMC (%)	EN 13286-4 : 2021	18	No requirement
Vibrating hammer maximum dry density (Mg/m ³)	EN 13286-4 : 2021	1.7	No requirement

Chemical properties

Requirement	Specification reference	Typical value	Requirements of SHW Clause 803 Type 1
Total Sulphur (% As S)	EN 1744-1 : 2009 + A1 :2012, Clause 11.2	0.48	<1
Water Soluble Sulphate (mg/l, As SO ₄)	EN 1744-1 : 2009 + A1 : 2012, Clause 10.1	1100 mg/l	<1500mg/l

Compliance and accreditations

Blue Phoenix in the UK is accredited through bsi for the following management systems:

- BS EN ISO 9001 - Quality management system
- BS EN ISO 14001 - Environmental management system
- BS ISO 45001 - Occupational health & safety management system



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Reborn
Aggregates