

PRODUCT SHEET

BEAUMIX®

ORIGIN

In the Netherlands, all household waste is incinerated in Waste to Energy Plants (Dutch: AEC's). During the combustion process, energy is generated but also residuals, such as bottom ash, fly ash etc., are produced. More than 1.5 million tonnes of incinerator bottom ash (IBA) is produced each year. This material consists mainly of coarser minerals, ceramics, glass, slag, and metal parts. The bottom ash is a building material which until 2020, due to the level of contamination, must be applied with isolation, management and control measures in accordance with the Soil Quality Decree (Dutch: Besluit Bodemkwaliteit).

PROCESS

In order to apply the residuals in a more sustainable and useful way, a "Green Deal Sustainable application IBA" was drawn up in 2012. Boskalis Environmental/HVC (wASH VOF) have developed a process to clean IBA. This washing process is based on extensive metal removal (both ferrous and non-ferrous), separation and dewatering of the fines, advanced processing of mineral fraction and purification/treatment of contaminated process water. The process produces an unrestricted reusable building material (Beaumix[®]) which is highly suitable for use in the GWW sector.

COMPOSITION

Beaumix[®] consists of a homogeneous mineral fraction of 0 to 20 mm. By removing the fine fraction, the material has good draining properties. Due to the broad particle sizes distribution

NFORMATION	
ocation	Alkmaar and Assendelft, Netherlands
Annual quantity	Alkmaar, approx. 200,000 tonnes Assendelft, approx. 400,000 tonnes
3ulkhead present	Alkmaar, located along a waterway, barges up to 1,200 tonnes Assendelft, located along the North Sea Channel, large vessels



A IBA Processing Facility Alkmaar

Quality control at project site

В

spectrum of the material, from fine to moderately coarse, it is also easy to compact. Beaumix[®] was incorporated by the Ministry of Infrastructure and Environment (Dutch: Rijkswaterstaat) in 2017 and validated to the Requirements Substructure. (Dutch: Eisen Onderbouw)



Parameter	Unit	Weighted average	Requirements RAW			Test method
			Sand for backfill	Drain sand	Sand for embankment	
Fraction < 63 µm of Fraction < 2 mm	% (m/m)	5		≤ 5	≤ 15	Test 2 and 11
Fraction on sieve 250 µm	% (m/m)	87		≥ 50		Test 11
Loss on ignition of fraction < 2 mm	% (m/m)	1		≤ 3	≤ 3	Test 28
Fraction < 2 µm	% (m/m)	3*	≤ 8			Test 1
Fraction < 63 μm	% (m/m)	3	≤ 50			Test 2
Conclusion			Comply	Comply	Comply	

*Not determined during production checks

When applied, it is necessary to compact according to the requirements for sand compaction in the RAW Standard 2015, Article 22.02.06(4) and (5). The project should also determine the particle size distribution for at least 10 locations, where a maximum percentage of the fine fraction (< 63 mu) of 5% (w/w) is allowed.

KIWA CERTIFICATES

BRL EN 13242 (0620-CPR-88102) BRL 2307-1 (KOMO) (K88101) BRL 2307-2 (NL-BSB) (K88100)





C Application Amaliaviaduct Maasvlakte

Contact details for a specific application of Beaumix®

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