

BITUMIX™

COMPOSITION

BITUMIX™ is a nominal 20 mm* graded, bitumen stabilised pavement material manufactured from BITUMATE™ with the addition of a nominated dose rate of high float bitumen emulsion and supplementary binders (1% cement or lime). Source material is reclaimed asphalt removed from road pavements and car parks by stripping, cold planing or excavation. Minimal amounts of base, sub-base or other materials may be included in the product.

*10 and 14 mm material can be supplied upon request.

PRODUCT DEVELOPMENT

ResourceCo has invested significantly in the development of BITUMIX™.

Assisted by a grant from Zero Waste SA in 2005, we commissioned the Australian Road Research Board (ARRB) to develop a range of bituminous-based pavement material products using reclaimed asphalt in their Melbourne research facility.

EMULSION DOSAGE

ResourceCo has exclusive rights to the High Float Medium Set (HFMS) emulsion used in the manufacturing process. Dose rates are typically in the range of 2 – 4% and are adjusted depending on individual project needs and expected end usage.

QUALITY ASSURANCE

BITUMIX™ is manufactured through our advanced pugmill which incorporates the specialist emulsion dosing tank and equipment. Manufacture and supply is carried out under strict quality control and production procedures in accordance with our Quality Assurance System.

BITUMIX™ is produced on demand to a nominated specification and tested for compliance by an external NATA accredited laboratory.



APPLICATIONS

- Intermediate structural layer on thick asphaltic concrete roads
- Grain storage facilities
- Wearing course for light traffic roads
- Road shoulder construction and repair
- Hard stand areas
- Footpaths, fire tracks and walking trails
- Light and medium duty car parks
- Driveways.

BENEFITS OF USING BITUMIX™

The physical properties of BITUMIX™ allow it to replace traditional asphalt in some applications. The addition of emulsion partially reactivates the residual bitumen binder that is retained during the manufacturing process. This combined total binder content greatly improves the mechanical interlocking and binding of each particle within the pavement.

Benefits include:

- cheaper and cost effective alternative to some asphalt pavements
- can be laid without the use of an asphalt paving machine
- reduced dust generation through traffic and normal wear and tear
- increase in life expectancy over non-bound pavements
- decreases maintenance cycles and associated costs
- reuses reclaimed asphalt thereby reducing disposal to landfill
- can be laid cold, unlike normal asphalt mixes
- can be stored for several days before use.

CONSTRUCTION METHOD

BITUMIX™ is supplied wet-mixed to Optimum Moisture Content (OMC) and at the designed emulsion dose rate. It can be laid using standard asphalt paving methods or slightly modified practices used for laying normal quarry pavement material. The minimum recommended pavement thickness is 50 mm and proper compaction and rolling will provide a hard, durable and smooth surface.

Manufacture and supply is carried out under strict quality control and production procedures in accordance with our Quality Assurance System.



PRODUCT SPECIFICATION

TEST PROCEDURE	MANUFACTURING TOLERANCE			
QUALITY CONTROL TESTS				
Particle Size Distribution TSA-MAT-TP134	PRODUCT	20 MM BITUMIX™	14 MM BITUMIX™	10 MM BITUMIX™
	Sieve Size (mm)	Percent Passing		
	53			
	37.5			
	26.5	100		
	19	90 - 100	100	
	13.2	74 - 96	95 - 100	100
	9.5	61 - 85	74 - 96	90 - 100
	4.75	42 - 66	61 - 85	60 - 85
	2.36	28 - 50	42 - 60	35 - 55
	0.425	11 - 27	11 - 35	10 - 45
	0.075	4 - 14	4 - 14	5 - 15
AS1289.3.1.2	Liquid Limit	Maximum 28%		
AS1289.3.3.1	Plasticity Index	Minimum 1% - Maximum 8%		
AS1289.3.4.1	Linear Shrinkage	Maximum 4%		
TSA-MAT-TP470	Bitumen Content	Maximum 4%		
Added Binder	Emulsion	HFMS emulsion (Dose rate to order)		
Added Binder	Cement, Lime or Polymer	Nominated to order		

OTHER PROPERTIES

Typical Density (MDD)	is 2.15 t/m ³
Typical Optimum Moisture Content (OMC)	5.0%
Typical Resilient Modulus	+1,500 MPa