RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

OVERVIEW

HISTORY

ResourceCo was established in 1993, commencing operations in South Australia as an integrated resource recovery business, diverting waste away from landfills and adding value to maximise the recovery of recyclable materials. Today, ResourceCo operates on 7 sites across South Australia, Victoria and internationally in Singapore, employing over 140 personnel.

LOCATIONS

The ResourceCo Group has 7 facilities, future sites are currently being investigated interstate and overseas.

ResourceCo locations

Wingfield -	Cnr Wingfield and Hines Roads Wingfield SA
Lonsdale -	Meyer Road Lonsdale SA
Dry Creek -	Waste derived fill site, Hanson Road Extension Dry Creek SA
Singapore -	100 Beach Road # 21-04 Shan Tower Singapore 189702

SITA-ResourceCo locations

Wingfield -	Wilkins Road Wingfield SA
Lonsdale -	Onkaparinga Eco Precinct, Christie Road Lonsdale SA
Hampton Park -	Hallam Road, Hampton Park Victoria

PRODUCT RANGE

ResourceCo has developed state of the art processing facilities that are able to manufacture a large range of quality, recycled products from various waste streams.

With the support of the Department of Transport, Energy and Infrastructure (DTEI), ResourceCo was instrumental in the inclusion of Recycled Pavement Materials into DTEI's Pavement Material (PM) specification.

This guide has been developed to enable you, our customer to make informed decisions about the products and services ResourceCo and SITA-ResourceCo provide. We trust that you will find this product information pack a valuable tool in your daily activity and we encourage you to contact our head office on (08) 8347 3329 or your dedicated account manager for additional clarification.

Wingfield


Lonsdale


Dry Creek

SITA-ResourceCo Wingfield

SITA-ResourceCo Lonsdale


SITA-ResourceCo Hampton Park

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

CONSTRUCTION & DEMOLITION (C&D) MATERIAL

Construction & Demolition (C&D) material is comprised of mixed heavy loads which usually contain a combination of timber, concrete, bricks, rubble, metal, plastics, cardboard and paper.

This material is sorted and the ferrous and non-ferrous metals, inert fractions (bricks, concrete etc) and non-recyclables are removed from the combustible portion of this material stream. This combustible material is then manufactured into Processed Engineered Fuel (PEF) for use as an alternative to traditional fossil fuels.

All salvaged metals are then shipped to specialist external companies for sorting and recycling. The inert fractions are recycled and resupplied to the civil construction market as an alternative to traditional quarried products.

Sources

This material stream is typically sourced from all stages of construction and demolition, final site clean ups and domestic clean ups using skip bins.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

COMMERCIAL & INDUSTRIAL (C&I) MATERIAL

Commercial & Industrial (C&I) material is comprised of mixed light loads which usually contain a mix of timber, metals, plastics, cardboard and paper. This material stream may also include small amounts of concrete, brick, rubble and soil.

This material is sorted and the ferrous and non-ferrous metals, inert fractions (bricks, concrete etc) and non-recyclables are removed from the combustible portion of this material stream. This combustible material is then manufactured into Processed Engineered Fuel (PEF) for use as an alternative to traditional fossil fuels.

All salvaged metals are then shipped to specialist external companies for sorting and recycling. The inert fractions are recycled and resupplied to the civil construction market as an alternative to traditional quarried products.

Sources

This material stream is typically sourced from new commercial and domestic construction activities, site fit outs and refurbishments, manufacturing facilities and waste customers that have carried out some pre-sorting.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

INCOMING RAW MATERIALS ASPHALT

ResourceCo has developed state of the art processing facilities that are able to manufacture a large range of quality, recycled products from various streams.

This guide has been developed to enable you, our customer to make informed decisions about the products and services ResourceCo and SITA-ResourceCo provide.

Clean Asphalt

Clean Asphalt (pictured right) consists of clean slab asphalt and clean profilings. This material should be contaminant free and contain only minimal amounts of road base, clay, soils, bricks and other foreign matter.

This material is used to manufacture:

- BITUMATE™: A minus 20mm pavement material suitable for use in hard stand areas, light duty car parks, fire and walking trails, road re-sheeting.*
- BITUMIX™: A minus 20mm pavement material containing a nominated percentage of high float emulsion and suitable for use as an alternative to some traditional asphalt/hot mix applications.*

Unclean Asphalt

Unclean Asphalt (pictured right) is predominantly asphalt that has been contaminated by road base, soil, clay, bricks and concrete during the excavation or removal process. If the predominant material in the load is not asphalt, it will be classified as Unclean Fill.

This material is used to manufacture:

- Low grade bulk fill.
- 20mm non-spec rubble.
- 40mm non-spec rubble
- -75mm select fill

The resource recovery and re-use of these products can provide up to a 65% CARBON REDUCTION in production when compared to quarried alternatives

* Separate Product Information sheets are available for these products.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

INCOMING RAW MATERIALS CONCRETE

ResourceCo has developed state of the art processing facilities that are able to manufacture a large range of quality, recycled products from various streams.

This guide has been developed to enable you, our customer to make informed decisions about the products and services ResourceCo and SITA-ResourceCo provide.

Clean Concrete
Clean Concrete (pictured right) is generally slab, paving or kerb and channel with less than 5% contamination from materials other than concrete. Clean Concrete will have a maximum size of 600mm or less in any dimension and may also contain steel reinforcing.

Incoming loads containing concrete predominantly larger than 600mm will be charged as Oversize Concrete.

This material is used to manufacture:
- Concrete aggregates
- Drainage aggregates
- -7mm sand
- Class 1 Pavement Materials (PM1/20 RM)

Unclean Concrete
Unclean Concrete (pictured right) is generally concrete mixed with bricks, rubble and small amounts of soil but will include only minor amounts of plastic, timber or other organic material.

This material is used to manufacture:
- Class 2 Pavement Materials (PM2/20RG, PM2/40RG)
- Class 3 Pavement Materials (PM3/20RG, PM3/40RG)
- Engineered fills
- Drainage aggregates

The resource recovery and re-use of these products can provide up to a 65% CARBON REDUCTION in production when compared to quarried alternatives

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

Oversize Concrete

Oversize Concrete is generally made up of footings and large slabs. This material requires pulverizing and hammering to reduce the maximum size to 600mm or less before it can be processed through the crushing plant. Oversize Concrete may contain steel reinforcing.

This material is used to manufacture:

- Concrete aggregates
- Drainage aggregates
- -7mm Sand
- Class 1 Pavement Materials (PM1/20RM)

The resource recovery and re-use of these products can provide up to a 65% CARBON REDUCTION in production when compared to quarried alternatives

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

INCOMING RAW MATERIALS
BRICK & PAVERS

ResourceCo has developed state of the art processing facilities that are able to manufacture a large range of quality, recycled products from various streams.

This guide has been developed to enable you, our customer to make informed decisions about the products and services ResourceCo and SITA-ResourceCo provide.

Bricks, Brick Rubble, Pavers and Masonry Products

This material stream consists of the following:
- Bricks - clay and concrete
- Pavers - clay and concrete
- Roof tiles - clay and concrete
- Concrete blocks
- Brick rubble

This material is used to blend with concrete to produce:
- Class 3 Pavement Materials (PM3/20RG, PM3/40RG)
- 20mm non-spec rubble
- 40mm non-spec rubble
- Low grade bulk fills
- Drainage aggregates

The resource recovery and re-use of these products can provide up to a 65% CARBON REDUCTION in production when compared to quarried alternatives

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

WASTE FILL

Waste Fill, formerly known as "Clean Fill", is the product of various excavation and earthworks activities. Common examples of these activities include:

- Commercial construction site excavations (footings, basements, under-crofts etc)
- Domestic housing site excavations (footings, site levelling etc)
- Trenching works
- Swimming pool excavations
- Site stripping / earthworks

Waste Fill will include soil, clay, rock, sand or other mineralogical matter but must not contain other waste material. However, the inclusion of minor amounts of wood or other naturally occurring vegetative matter is acceptable. Waste Fill cannot be received from any site where a Potentially Contaminating Activity (PCA) has occurred and all Waste Fill must comply with the Chemical Criteria listed in the EPA's Standard for the production and use of waste derived fill.*

General EPA Requirements (Testing)

- **Any volume of waste soil from single source domestic premises, or less than 100 tonnes (in total) of waste soil from any other single source site where no PCA has occurred.**
  The EPA does not require sampling and assessment of waste soils classified as low risk. Low risk waste soils are those generated through minor residential excavations and volumes under 100 tonnes from a site where no PCA has occurred. In these cases only the general obligations of the standard apply. Commercial businesses or developments are not included in this category.

- **More than 100 tonnes of waste soil from a site where no PCA has occurred**
  Waste soil from sites where no PCA has occurred is lower risk than waste soil from a site where a PCA has occurred. However, the potential risk of contamination rises with increased volumes of waste soil. As large volumes of waste soil are usually generated by commercial operators it is reasonable to expect that appropriate measures are taken to ensure the material is free from contamination and poses no risk of harm to the receiving environment. Therefore it is recommended that sampling and assessment be undertaken before large volumes of waste soil are deposited at our facilities.

Waste Fill will be received as either Certified or Un-certified and different disposal rates will apply for each.

Bulk Fill Supply
Certified Waste Fill can also be re-supplied as a bulk engineered fill to projects where large volumes of material are required.

Transport of Waste Fill
ResourceCo's logistics arm can also provide competitive rates for the transport of materials from source to disposal sites.

*Copies of the EPA's Standard for the production and use of waste derived fill can be forwarded on request.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

INTERMEDIATE WASTE SOIL

Intermediate Waste Soil (IWS) can be sourced from sites where a Potentially Contaminating Activity (PCA) has occurred and is the product of various excavation and earthworks activities. Common examples of these activities include:

- Commercial construction site excavations (footings, basements, under-crofts etc)
- Domestic housing site excavations (footings, site levelling etc)
- Trenching works
- Swimming pool excavations
- Site stripping / earthworks

Intermediate Waste Soil will include soil, clay, rock, sand or other mineralogical matter but must not contain other waste material or asbestos. However, the inclusion of minor amounts of wood or other naturally occurring vegetative matter is acceptable. **Intermediate Waste Soil** must comply with the Chemical Criteria listed in the EPA's Standard for the production and use of waste derived fill.*

General EPA Requirements (Testing)

To be classified as Intermediate Waste Soil, material must be tested using EPA guidelines. Sampling and analysis should be undertaken by suitably qualified persons and results submitted to ResourceCo before any material can be received. To facilitate this process ResourceCo can arrange for soil analysis at competitive rates.

Transport of IWS

Transport of **IWS** can only be carried out by vehicles with the appropriate EPA license and before transport of **IWS** can take place EPA Waste Transport Certificates must be completed. Waste Transport Certificates are available from the EPA or ResourceCo can assist with the supply and completion of these forms. ResourceCo's logistics arm can also provide transport of materials from the source to disposal sites at competitive rates.

*Copies of the EPA's Standard for the production and use of waste derived fill can be forwarded on request.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

LOGISTICS SOLUTIONS

ResourceCo has been supplying materials to the civil construction market since the early 90's and in that time has clearly identified the need to deliver these products in a timely and effective manner.

Customer feedback has consistently shown that the "best practice" indicators for delivery to their projects are:

- On time delivery
- Sufficient delivery capacity
- Compliance with site conditions
- Compliance with statutory road laws and load limits
- Suitable and reliable vehicles
- Safe operation
- Courteous operators

In order to meet these requirements, ResourceCo has engaged a modern fleet operated by experienced and suitably qualified sub-contractors. These contractors are approved under our internal compliance requirements and have appropriate insurance and OH & S policies in place.

ResourceCo's logistics fleet comprises Truck & Trailers, Semis and Tandems, ensuring that we have the right combination to service our customers' needs and sufficient capacity to deliver in excess of 3,000t per day.

TOTAL PROJECT SOLUTIONS

Our logistics arm can provide cost effective cartage and transport solutions in the following applications:

- Delivery of materials to any project within the inner and outer metropolitan areas
- Delivery of Bulk Fills to any project within the inner and outer metropolitan areas
- Back cartage of materials from project sites
- Cartage of Waste Fills* from source to disposal sites

Special rates can be negotiated for country work.

*Vehicles will have the appropriate EPA licensing for the transport of listed materials.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

RESOURCECO CONCRETE

ResourceCo is the first concrete company in South Australia dedicated to maximising the use of sustainable aggregate and sand in the supply and manufacture of concrete. Our commitment to quality and sustainability means you can build smart with ResourceCo Concrete.

Made from clean, sustainable aggregate, ResourceCo Concrete is a high quality alternative to standard concrete. By reducing carbon intensity during production, ResourceCo Concrete provides a carbon footprint reduction of up to 65% in comparison to quarried alternatives[1]. Through the use of this sustainable aggregate mix, ResourceCo Concrete assists builders, developers and government to comply with the Green Star environmental rating system developed by the Green Building Council of Australia (GBCA).

The compressive and splitting tensile strengths of ResourceCo Concrete are in no way compromised by the quantity of sustainable aggregates used in production[2]. Now, the benefits of green concrete are being recognised worldwide as a high-grade, sustainable construction material.

Standard Concrete
Our range of standard concretes is suitable for all residential applications, driveways and footpaths. Our range of Normal (N) class concrete begins at N20 and extends to N50 grade and all designs and testing are conducted by an independent NATA registered laboratory.

Green Concrete
We also supply Normal class concretes produced from a blend of recycled and quarry/natural aggregates, ranging from a Leanmix (10-15MPa) to 32MPa grade. By using these sustainable aggregates, rather than virgin quarried materials, we are potentially reducing carbon footprint by up to 65%[1].

Special Requirements Concrete
- Fibre reinforced concrete - steel or polypropylene.
- Flowable concrete- for workability and easier placement.
- Structural fill – products for backfill applications.

Decorative Concrete
We can provide a range of options for coloured, exposed and polished concretes.

Locations
With batching locations in Wingfield and Lonsdale ResourceCo Concrete is strategically positioned to efficiently service greater metropolitan Adelaide.

1 - Carre A.; Rouwette R., Life cycle comparison of crushed concrete aggregate with traditionally quarried stone aggregate. RMIT Centre for Design May 2008, 1-6.
2 - Fathifazl G., Razaqpur A.G. Discussion on "Malesev M.; Radonjanin, V.; Marinkovic, S. Recycled Concrete as Aggregate for Structural Concrete Production. Sustainability 2010, 1204-1225", Sustainability 2011, 465-468.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8406 0386 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

OUTGOING FINISHED PRODUCTS

ResourceCo manufactures a wide range of recycled pavement materials, aggregates, sands, bulk fills & asphalt products at its Wingfield (North) and Lonsdale (South) production facilities. Source materials are crushed concrete, bricks & asphalt and under no circumstances is asbestos or asbestos fibre product incorporated into the product.

ResourceCo applies strict quality control and production procedures under its ISO 9001, ISO14001 & AS4801 accreditations and manufactures materials to meet Department of Transport, Energy and Infrastructure (DTEI) PM specifications where applicable. ResourceCo is pre-qualified with DTEI and all materials are tested for compliance by an external NATA laboratory.

ResourceCo operates two state of the art pugmill plants, at Wingfield and Lonsdale, and can supply cement treated and Optimum Moisture Content (OMC) materials on demand.

Transport

Timely and efficient delivery of our products can be coordinated through our logistics arm.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

PRODUCTS

PM1/20RM - Base Course
(30 & 40 mm also available upon request)
Class 1 Pavement Materials are intended for use as pavement layers on high trafficked roads. These products are *equivalent* to Class 1 Quarried Pavement Materials.

PM2/20RG – Sub Base
(30 & 40 mm also available upon request)
These products are intended for use as pavement layers on medium trafficked roads or sub base layers on high trafficked roads. These products are *equivalent* to Class 2 Quarried Pavement Materials.

PM3/20RG – Sub Base
(30 & 40 mm also available upon request)
These products are intended for use as pavement layers on low trafficked sealed roads or sub base layers on medium trafficked sealed roads. These products are *equivalent* to Class 3 Quarried Pavement Materials.

Non Specified Rubbles & Fills
These products are intended for use as a general engineered fill and can be supplied as a graded crushed product from 20mm up to 75mm or as a certified Waste Derived Fill.

10mm & 20mm Drainage Aggregates
These products are suitable for use as drainage aggregate in back fill behind retaining walls and other drainage aggregate applications. The 10mm aggregate is approved for use by SA Water. They can also be used in decorative and landscaping applications

10mm & 20mm Concrete Aggregates
These products are used in the manufacture of sustainable 'green' concrete as an alternative to quarried materials.

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

-7mm Sand

This product is used as packing sand for trench work and as under floor or engineered fill. It is used in the manufacture of sustainable 'green' concrete and is suitable for use under concrete or pavers.

BITUMATE™

This product is used as an alternative to traditional quarry products and is suitable for use in hard stand areas, fire and walking trails, light duty car parks and road re-sheeting where pavement maintenance and dust need to be kept to a minimum. *

Sources

Source materials are clean asphalt and profilings.

BITUMIX™

This product is predominantly used as an alternative to deep lift asphalt but can also be used as a wear course in minor trafficked areas, car parks, footpaths, road shoulders and hard stand areas. It is manufactured from BITUMATE™ with the addition of an exclusive high float bitumen emulsion at nominated dose rates. *

* Separate Product Information sheets are available for these products.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

OUTGOING FINISHED PRODUCT
BITUMATE™

Composition

BITUMATE™ is a nominal 20mm graded pavement material manufactured from reclaimed asphalt. Source material is 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. Under no circumstances is asbestos or asbestos fibre incorporated into the product.

The high quality aggregates and residual bitumen binder associated with the manufacture of the source product provide a basis for the high performance characteristics measured in the laboratory and field. BITUMATE™ is a quality graded product, allowing for excellent workability and compaction rates.

Quality Assurance

BITUMATE™ is manufactured and supplied under strict quality control in accordance with our Quality Assurance System.

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

TEST	TEST PROCEDURE	GRADING BASED SPECIFICATION LIMITS	
		Sieve Size mm	Percent Finer
Particle Size Distribution	TSA –MAT-TP141	26.5	100
		19.0	90 - 100
		13.2	74 - 96
		9.5	61 – 85
		4.75	42 - 66
		2.36	28 – 50
		0.425	11 - 27
		0.075	4 - 14
Liquid Limit	AS 1289 3.2.2	Max 28%	
Plasticity Index	AS 1289 3.3.1	Min 1% Max 8%	
Linear Shrinkage	AS 1289 3.4.1	Max 4%	
LA Abrasion Grading B	AS 1141 .23	Max 45%	
Foreign Materials Type 2 (Plaster, clay, friable material)	RTA-NSW T276	Max 1%	
Foreign Materials Type 3 (Plastic, rubber, wood)	RTA-NSW T276	Max 0.5%	
Bitumen Content	TSA – MAT – TP470	Max 4%	

Typical Density (MDD)	is 2.15t/m^3
Typical Optimum Moisture Content (OMC)	6.0%

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

Applications

- Unsealed rural roads
- Road shoulder construction and repair
- Hard stand areas
- Footpaths, fire tracks & walking trails
- Light duty car parks
- Driveways

Construction Method

BITUMATE™ is supplied wet-mixed to Optimum Moisture Content (OMC) and laid using traditional methods much like any other quarried pavement material. Minimum recommended pavement thickness is 50mm. Proper compaction and rolling will provide a hard, durable and smooth surface.

Benefits of using BITUMATE™

The physical properties of BITUMATE™ allow it to perform differently than traditional quarried pavement materials. The residual bitumen binder that is retained during the manufacturing process improves the mechanical interlocking and binding of each particle within the pavement. Benefits include:

- Reduced dust generation through traffic and normal wear and tear
- Increase in life expectancy of pavements
- Decreases maintenance cycles and associated costs
- Re-uses reclaimed asphalt thereby reducing disposal landfill

Product Sample shown is magnified from original size.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

OUTGOING FINISHED PRODUCT BITUMIX™

Composition

BITUMIX™ is a nominal 20mm* 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. Under no circumstance is asbestos or asbestos fibre incorporated into the product.

*10 & 14mm can be supplied upon request

Product Development

ResourceCo has invested significantly in the development of BITUMIX™ and, with the assistance of a grant from Zero Waste SA in 2005, commissioned the Australian Road Research Board (ARRB) to undertake research using their specialists and Melbourne facilities to develop a range of bituminous based pavement material products using reclaimed asphalt.

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.

Manufacture & Quality Assurance

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

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

BITUMIX™ core sample cut from a completed roadway.

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

RESOURCECO

TOMORROW'S SOLUTIONS. TODAY

Product specification

TEST PROCEDURE	MANUFACTURING TOLERANCE			
QUALITY CONTROL TESTS				
	Product	20 mm BITUMIX™	14mm BITUMIX™	10mm BITUMIX™
	Sieve Size (mm)	Percent Passing		
Particle Size Distribution TSA-MAT-TP134	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 2.15t/m^3
Typical Optimum Moisture Content (OMC)	5.0%
Typical Resilient Modulus	+1,500MPa

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 & walking trails
- Light & medium duty car parks
- Driveways

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 normal quarry pavement material laying. Minimum recommended pavement thickness is 50mm and proper compaction and rolling will provide a hard, durable and smooth surface.

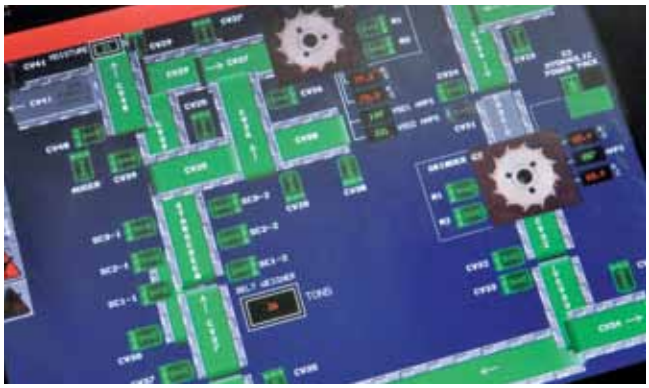
Benefits of using BITUMIX™

The physical properties of BITUMIX™ allow it to be used in some applications where traditional asphalt would have been used. 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 & 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
- Re-uses reclaimed asphalt thereby reducing disposal to landfill
- Can be laid cold, unlike normal asphalt mixes
- Can be stored for several days before use

Corner Hines Roads & Wingfield Road, Wingfield, SA 5013
PO Box 542, Enfield Plaza SA 5085
Tel (08) 8347 3329 • Fax (08) 8347 3556 • Email info@resourceco.com.au

SITA-RESOURCECO ALTERNATIVE FUELS



The source for manufacture of Alternative Fuels is from Commercial & Industrial (C&I) material. This material is comprised of mixed light loads which usually contain a mix of timber, metals, plastics, cardboard and paper. This material stream may also include small amounts of concrete, bricks and rubble.

This material is sorted and the ferrous and non-ferrous metals, inert fractions (bricks, concrete etc.) and non-recyclables are removed from the combustible portion of this material stream. The combustible material is then processed for manufacturing of Process Engineered Fuel (PEF).

All salvaged metals are recycled and ResourceCo further processes the inert fractions for resupply to the civil construction market.

The manufacture of PEF is carried out at the fully automated SITA-ResourceCo facility at Wingfield. This facility has the capability to convert up to 350,000 tonnes of raw material per annum into 100,000 to 150,000 tonnes of PEF. All raw materials are separated during processing and over 90% of the material is recycled.

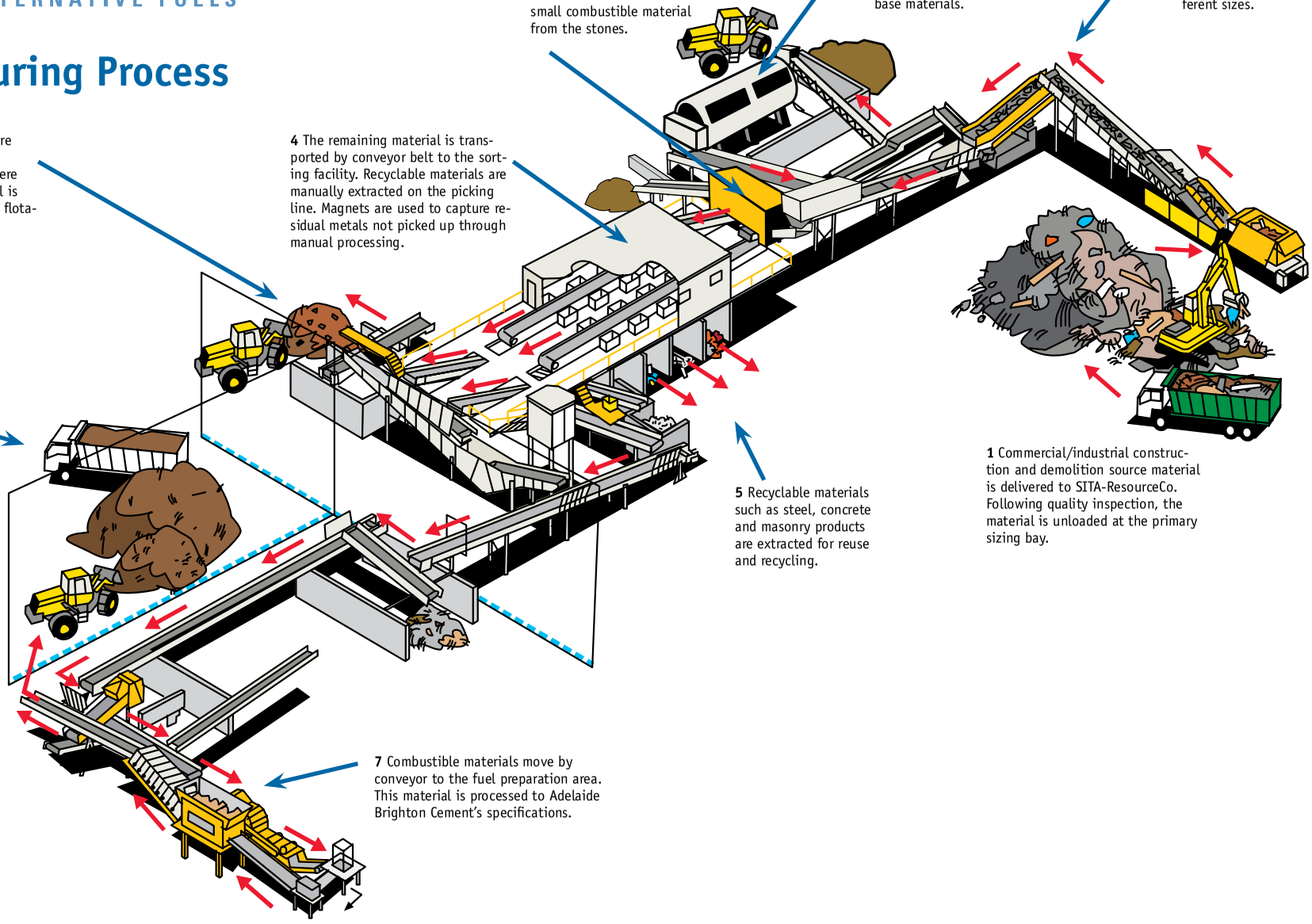
PEF has significant calorific value and can be used as a fuel substitute for coal and gas in high combustion facilities. The use of PEF can benefit end-users in two ways:

- the energy replacement value from the utilising PEF instead of traditional fossil fuels
- the carbon and renewable energy benefits:
  - through reduced fossil fuel use
  - the reduction in landfill emissions
  - Renewable Energy Certificates obtained

Wilkins Road, Wingfield, South Australia, Ph: 8347 3329.

SITA-RESOURCECO
ALTERNATIVE FUELS

PEF Manufacturing Process



1 Commercial/industrial construction and demolition source material is delivered to SITA-ResourceCo. Following quality inspection, the material is unloaded at the primary sizing bay.

2 Product from the primary sizing bay is fed onto vibrating screens for separation into different sizes.

3 The trommel removes the small aggregates and sand which are stockpiled to blend with recycled road base materials.

3b The larger stones are then passed to the air knife which is used to remove small combustible material from the stones.

4 The remaining material is transported by conveyor belt to the sorting facility. Recyclable materials are manually extracted on the picking line. Magnets are used to capture residual metals not picked up through manual processing.

5 Recyclable materials such as steel, concrete and masonry products are extracted for reuse and recycling.

6 The stones from step 3 are stockpiled and sent to the waterbath, as required, where larger combustible material is reclaimed via a proprietary flotation system.

7 Combustible materials move by conveyor to the fuel preparation area. This material is processed to Adelaide Brighton Cement's specifications.

8 The finished alternative fuel is stockpiled for transport to the Adelaide Brighton Cement Birkenhead plant for use as a fossil fuel substitute in the cement making process.

Wilkins Road, Wingfield, South Australia, Ph: 8347 3329.