



# Building Roads for the Future



Introducing: AGGBIND  
EXP 75



CORPORATE ENERGY GROUP

# + About us

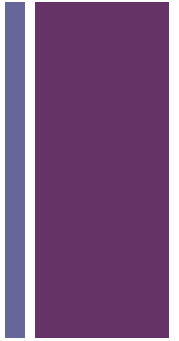
- Otech Australia have been supplying both the Australian and New Zealand Road Industry with a range of associated products for over a decade. Otech Australia works closely with Main Roads Departments & Contractors alike to guarantee that our products meet the stringent demands in relation to specifications, quality and safety.
- WBF has been appointed as the sole distributor of Otech Road Maintenance products into the Asian Markets.
- Otech and WBF have formed a strategic alliance in an endeavour to better serve the Asian markets with specialty road maintenance chemicals through Singapore.



# + Are these road conditions familiar?



# + Better Adhesion with Aggbind



***Stripped seal – poor adhesion***



***No stripping – excellent adhesion***

# + Technical Advantages over other products

- *Aggbind is easy to incorporate into the sprayer;*
- *Minimal fuming, resulting is less complaints from work crews and the public;*
- *Good product stability at high and low temperatures;*
- *Successfully used on a wide range of aggregates;*



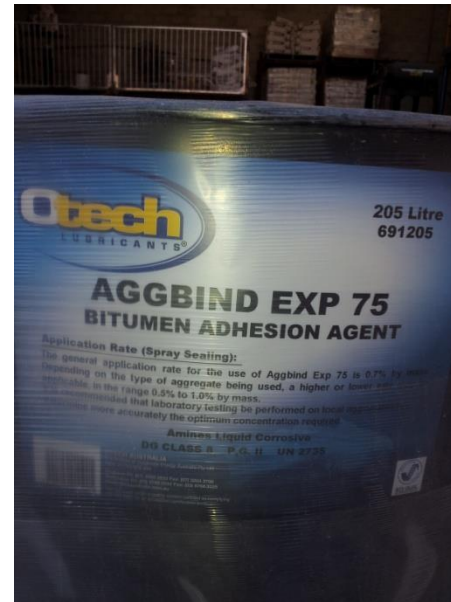
← Minimal fuming – no complaints.



# Aggbind EXP 75

## Product Description

- Specially formulated bitumen adhesive agent that provides optimum adhesion in the presence of moisture
- Available in 20 litre pails, 205 litre drums, and bulk





# Aggbind EXP 75

## Key advantages

- Works great with tough aggregates having low affinity for bitumen.
- Manufactured and supplied under strict Quality control procedures
- Long lasting roads
- Ease of material handling and pourability
- Effectiveness of product
- Heat stability under Australian Standards test conditions.
- Low settlement @ low temperatures.





# Aggbind EXP 75

## Application methods



- Spray sealing
  - 0.5% by mass for normal applications
  - 1.0% by mass for difficult aggregates with high stripping tendencies
  - Dosage of anti-stripping agent should be doubled when using polymer modified binders, but limited to 1.5% max for problem aggregates
  
- Precoating
  - Addition of average 0.9%-1.5% to be used in precoat blending<sup>1</sup>

<sup>1</sup> Dependent on local council and main road requirements



# Aggbind EXP 75

## Product Specifications



Specific Gravity @25 C	0.855
Flash Point	>140 degrees C
Colour	Gold to off yellow
Decomposition Temperature	>250 degrees C

## Product Synopsis

Product	Pourability (%)	Settlement (%)	Amine Value		
			Total	Tertiary	Tertiary (% of total)
Aggbind EXP 75	100	<1.0	190	4.75	>1.5



# 0.6% AGGBIND 75 (by Vol. @15°C)



Canterbury Laboratory  
 325 Pound Road, Yaldhurst  
 PO Box 16 064, Christchurch 8441  
 Telephone + 64 3 349 9142  
 0800 Laboratory  
 Facsimile + 64 3 349 9143  
 Email Cant.Lab@fultonhogan.com  
 www.fultonhogan.com

Laboratory Reference: CAN11W1022

## ADHESION AGENT TEST REPORT

**ATTENTION:**

**Ray Georgey**

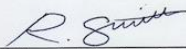
CLIENT: Otech Australia  
 CLIENT REFERENCE: 0.6pph Otech AGGBIND-75<sup>®</sup> by volume at 15°C  
 ADHESION AGENT: Otech AGGBIND-75<sup>®</sup> liquid adhesion agent  
 ADHESION AGENT SOURCE: Supplied by Fulton Hogan Canterbury Bitumen Plant in May 2011  
 AGGREGATE SOURCE: Sampled from Miners Rd Quarry in August 2010  
 TEST METHOD USED: WDSC B301-89T  
 TESTED BY: Rachel Smith on 5/05/2011

**RESULTS:**

AGGREGATE SOURCE	AGENT QUANTITY (PPH BY VOLUME)	TEST RESULT	TEST CRITERION
Fulton Hogan – Miners Rd	0.6	<b>100</b>	<b>1.42</b>
		Spec : 80 min	Spec : 2 max

Test performed using: Grade 3 chip of greywacke origin  
 Chip sieved between 13.2 & 9.5mm sieves and washed in deionised water  
 180/200 Penetration Grade Bitumen  
 Adhesion agent set up time was 2.5 hours  
 Test temperature of 25°C

Report Issued By: Suzanne Lee on 5/05/2011

Report Checked By:   
 Bitumen Laboratory Supervisor

Disclaimer: These test results apply to the samples as received by the Laboratory. No liability will be accepted by the Laboratory for an misrepresentation with respect to the sampling of material for testing and/or the use of these test results.

Continuation of Laboratory Reference: CAN11W1022



**Figure 1.** Photograph showing test plates with 180/200 bitumen and 0.6pph Otech AGGBIND-75<sup>®</sup> (by volume) after test was performed. Fulton Hogan – Miners Rd grade 3 chip that was dislodged is arranged below the plates.



# 0.5% AGGBIND 75 (by mass)



Canterbury Laboratory

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Email Cant.Lab@fultonhogan.com  
www.fultonhogan.com

Laboratory Reference: CAN10W0747/1

## ADHESION AGENT TEST REPORT

ATTENTION: Ray Georgey

CLIENT: Otech Australia  
CLIENT REFERENCE: 0.5% Otech AGGBIND-75<sup>®</sup> by mass  
ADHESION AGENT: Otech AGGBIND-75<sup>®</sup> liquid adhesion agent  
ADHESION AGENT SOURCE: Supplied by client in September 2009  
TEST METHOD USED: MWD B-301-89T (modified)  
TESTED BY: Rachel Smith on 23/04/2010

RESULTS:

AGGREGATE SOURCE	AGENT QUANTITY (% BY MASS)	TEST RESULT	TEST CRITERION
Poplar Lane Quarry	0.5	88 Spec : 80 min	1.26 Spec : 2 max

Test performed using: Grade 3 chip from Poplar Lane Quarry  
Chip sieved between 13.2 & 9.5mm sieves and washed in deionised water  
180/200 Penetration Grade Bitumen  
Adhesion agent set up time was 2.5 hours  
Test temperature of 25°C

Report Issued By: Suzanne Lee on 23/04/2010

Report Checked By:   
Bitumen Laboratory Supervisor

Disclaimer: These test results apply to the samples as received by the Laboratory. No liability will be accepted by the Laboratory for any misrepresentation with respect to the sampling of material for testing and/or the use of these test results.

Continuation of Laboratory Reference: CAN10W0747/1



Figure 1. Photograph showing test plates with 180/200 bitumen and 0.5% Otech AGGBIND-75<sup>®</sup> (by mass) after test was performed. Poplar Lane Quarry grade 3 chip that was dislodged is arranged below the plates.



# Aggbind EXP 75 – Laboratory Tests

## Test Reports (0.7% Aggbind)

## Asphalt Particle Loss Test



### AUCKLAND LABORATORY

275 Kereka Rd, East Tamaki, North City 1062, Auckland  
Ph: 021 500 2404 Fax: 021 501 0401

### TEST REPORT

LAB N°: A122115  
REPORT DATE: 05/12/2012  
PAGE 1 of 1

CLIENT: Downer Christchurch Laboratory  
CLIENT REF: C12/2488  
JOB LOCATION: 0.7% Aggbind  
MATERIAL: FA10 B90 Isaac  
MATERIAL SOURCE: Isaac  
SAMPLE DATE: NS  
SAMPLED BY: NS  
TEST DATE: 07/12/2012

### TEST METHODS:

1. Asphalt Particle Loss

AST 07.2003

### RESULTS:

Sample No	Particle Loss (%) Conditioned	Particle Loss (%) Unconditioned	Air Voids (%)
3		17.9	22.3
4		14.4	21.4
5		13.3	21.8
1	16.0		19.7
2	18.2		25.0
6	18.5		22.5
Average	17.9	15.2	

### TEST METHODS:

1. Asphalt Particle Loss

### RESULTS:

Sample No	Particle Loss (%) Conditioned	Particle Loss (%) Unconditioned	Air Voids (%)
3		17.9	22.3
4		14.4	21.4
5		13.3	21.8
1	16.0		19.7
2	18.2		25.0
6	18.5		22.5
Average	17.9	15.2	

### NOTES:

1. Test result apply to sample as received.
2. For each specimen, air voids are supplied by the client.

  
Harrison Jia  
Approved Signatory



All test reports  
issued have been  
approved by a  
qualified person  
with the necessary  
scope of accreditation.  
This report may not  
be reproduced or  
copied without  
written consent.



# Aggbind EXP 75 – Laboratory Tests

## Test Reports (0.5% Aggbind)



### AUCKLAND LABORATORY

66 Grafton Road, Parnell, Auckland 1062, New Zealand  
Phone: 09 580 6911 Fax: 09 580 6907

### TEST REPORT

LAB No: A122426  
REPORT DATE: 08/02/2012  
PAGE 1 of 1

CLIENT: Downer Christchurch Laboratory  
CLIENT REF: C12/2485  
JOB LOCATION: 0.5 per Aggbind  
MATERIAL: PA10 B60 Isaac  
MATERIAL SOURCE: Isaac  
SAMPLE DATE: N/S  
SAMPLED BY: N/S  
TEST DATE: 07/02/2012

TEST METHODS: 1. Asphalt Particle Loss

AST 07:2003

### RESULTS:

Sample No	Particle Loss (%) Conditioned	Particle Loss (%) Unconditioned	Air Voids (%)
A		12.5	22.4
B		22.3	23.9
C		15.8	22.2
D	24.8		22.4
E	28.8		22.9
F	25.9		22.7
Average	26.5	16.0	

### NOTES:

1. Test result apply to sample as received
2. For test 1 again later, the air voids are supplied by the client.

Harrison Jia  
Approved Signatory



All test reported  
results have been per-  
formed in accordance  
with the latest ver-  
sions of applicable  
the test, and all  
equipment used  
is calibrated.

## Asphalt Particle Loss Test

### TEST METHODS:

1. Asphalt Particle Loss

### RESULTS:

Sample No	Particle Loss (%) Conditioned	Particle Loss (%) Unconditioned	Air Voids (%)
A		12.5	22.4
B		22.3	23.9
C		15.8	22.2
D	24.8		22.4
E	28.8		22.9
F	25.9		22.7
Average	26.5	16.0	

# + Proven in the market

## Customer Testimonial



Fulton Hogan Ltd

29 Sir William Pickering Drive  
PO Box 39 185, Christchurch 8545  
Telephone + 64 3 357 1400  
Facsimile + 64 3 357 1450  
www.fultonhogan.com

February 20 2013

Ray Georgey  
Otech Australia

Dear Ray

**Regarding: Feedback from Fulton Hogan on the use of Aggbind 75 Adhesion Agent in chipsealing in New Zealand.**

I have asked our New Zealand based chipsealing binder production and application staff for some feedback following the use of Aggbind 75 during the past few years. The product has been used throughout New Zealand for chipsealing.

The Fulton Hogan staff that have used it are all very happy with the customer service, the product handling, and the performance on the road and would all recommend Aggbind 75 to other users. To date we have not had a chipseal failure that can be attributed to the performance of the adhesion agent.

Yours sincerely

Jeff Waters  
Surfacing Engineer

## Market Accreditation

- Otech Australia have achieved third party assurance accreditation through Sci-Qual International.
- Products are specifically formulated to ensure applicable standards called for by both State and National Authorities are met.



## Why choose us?

Technical Support and Partnership

On-Time supply & delivery flexibility

Product Quality & Integrity

Proven technology in the market

Cost competitiveness

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# HIGGINS

Ray Georgey  
Corporate Energy Group  
PO Box 139  
Deception Bay  
Queensland 4508  
Australia

11<sup>th</sup> March 2013

Ray,

I wish to express my appreciation for your continuing, high level of customer service. It is refreshing to be able to rely on you and your company as a vital part of our supply chain and an important member of our team. Because of your exceptional level of service we are able to more reliably meet the expectations of our own customers.

The Aggbind 75 adhesion agent and O-Tech 518 oil we purchase from you has always been of a consistently high quality. We have found the Aggbind 75 to be very effective at preventing loss of aggregate from our chip seals in wet weather. It is easy to handle, blends readily with the bitumen and is cost efficient.

The use of O-Tech 518 oil has improved our manufacturing performance. It is of higher quality and more cost effective than the oil we had been using and you worked tirelessly to make the O-Tech 518 available when we needed it and in the quantities we required. Your efforts are very much appreciated.

When we purchase from you, we know exactly what we are getting, how much it will cost and when it will arrive. As always, it is a pleasure doing business with you. We look forward to continuing our relationship in the future.

Yours sincerely

Sean Bearsley  
Product Development Manager