

Approval of 50, 65 and 75mm Reo Bar Chair Blocks



RAJAKARUNA Mahes (SDSE) <mahes.rajakaruna@mainroads.wa.gov.au>

30/08/2022 10:52 AM

To: Imfour@bigpond.com Cc: MATHANKAR Sambashiv (AMS)

[Save all attachments](#)



MTS-39591 C O D.PDF
462.7 KB



MTS-39591-1 C O D.PDF
508.38 KB



MTS-39591-2 C O D.PDF
503.96 KB

Hi Lester,

Based on the test reports provided, Reo Blocks 50, 65 and 75mm are approved for use on MRWA structures.

Please notify if any changes are made to the product and if any issues are identified during installation. MRWA reserves the right to revoke any approval at its discretion if any cause for concern is identified.

Mahes Rajakaruna
Structures Design and Standards Engineer
Structures Engineering
Ph [+61893234475](tel:+61893234475)



From: MATHANKAR Sambashiv (AMS) <Sambashiv.Mathankar@mainroads.wa.gov.au>

Sent: Monday, 22 August 2022 8:53 AM

To: JUANITA MICHEL <Imfour@bigpond.com>; RAJAKARUNA Mahes (SDSE) <mahes.rajakaruna@mainroads.wa.gov.au>

Subject: RE: REO BLOCKS testing done at LMATS, to comply to AS/NZS 2425 - 2015

Hi Lester,

I have forwarded it to Mahes who handles the approvals process. Please liaise with Mahes directly for further approvals.

Mahes, FYI and action as required.

Regards

Sambashiv Mathankar
ASSET MANAGER STRUCTURES
Metropolitan Region
Metropolitan & Southern Regions Directorate
p: +61 8 93236357 m: 0432303131
e: sambashiv.mathankar@mainroads.wa.gov.au
w: www.mainroads.wa.gov.au



BUILDING
FOR
TOMORROW!



Test Report

To	C O D	Report No.	MTS-39591 C O D
Order No.	COD - lester michel <lmfour@bigpond.com>	Reference No.	LP22-1444
		Issue Date	19/08/2022
		Test Date	19/08/2022

Introduction

Reo Bar Chair Blocks were received for the purpose of load testing as per AS/NZS 2425-2015 Clause 6 and load testing to failure.

Test Item(s) Three (3) Reo Bar Chair Blocks - 50 mm

Details

ID	Item/Heat No.	Dimensions/Type/Details
LP22-1444/01	-	Reo Bar Chair Block - 50mm
LP22-1444/02	-	Reo Bar Chair Block - 50mm
LP22-1444/03	-	Reo Bar Chair Block - 50mm with bottom plate

Examinations & Tests

Test 1 - AS/NZS 2425-2015

- The bar chair block was placed on a flat steel plate.
- The load was applied by way of a 24 mm diameter plain round steel pin for strength grade >300.
- A 20 kg Pre-Load was applied on the bar chair block, at which the datum point was established.
- The load was increased at a uniform rate to 300 kg, and held for 2 min. The deflection under load was measured.
- The load was reduced to 20 kg, and the permanent set was measured.

Test 2 - Failure

- The bar chair block was placed on a flat steel plate.
- The load was applied by way of a 24 mm diameter plain round steel pin for strength grade >300.
- The load was increased at a uniform rate until failure occurred. The failure load and mode of failure was noted.

Summary

The results of Test 1 reported herein COMPLIED with the requirements of AS/NZS 2425 - 2015, Clause 6.4 and Table 1.

The result of Test 2 reported herein were not subject to assessment and are provided for information purposes only.



Mohsen Alvani
Materials Engineer

Results

Test 1 - AS/NZS 2425:2015 Clause 6

Test Specification AS/NZS 2425:2015 **Test Procedure** Compression test

Specimen ID	Observations	Assessment
LP22-1444/01	Test Load: 300kg Hold Time: 120 seconds Deflection Under Load: 0.66 Permanent Set: 0.16	COMPLIES
LP22-1444/02	Test Load: 300kg Hold Time: 120 seconds Deflection Under Load: 0.77 Permanent Set: 0.14	COMPLIES
LP22-1444/03	Test Load: 300kg Hold Time: 120 seconds Deflection Under Load: 0.73 Permanent Set: 0.23	COMPLIES

Requirements Deflection Under Load: ±3.0 mm max. Permanent Set: ±2.0 mm max.

Test 2 - Failure

Test Specification Client Specification **Test Procedure** Compression test

Specimen ID	Observations
LP22-1444/01	Failure Load: 1600 kg Failure Mode: The bar chair block cracked in half.
LP22-1444/02	Failure Load: 1611 kg Failure Mode: Deformation of the bar chair block's base feet was observed.
LP22-1444/03	Failure Load: 1713 kg Failure Mode: Deformation of the bar chair block's base feet was observed.

Results

Photographs



As Received - 01 - 02 - 03



Test Setup - 01 - 02 - 03

Results

Photographs



Typical Base Feet Failure



Typical Crack Failure



LMATS Pty Ltd
ABN 41 107 100 925
3/52 Cocos Drive Bibra Lake Western Australia 6163
Tel 08 9418 6380 Fax 08 9434 1328

Notes

1. All test and inspection items will be discarded after 6 weeks, unless retrieved by the client's representative
2. Samples, identification of samples and all job specific details were supplied by the client.
3. Any stated nominal pipe sizes and nominal thickness of the material were provided by the client.
4. Where applicable, the Measurement Uncertainty (MU) applies to the test results as per LMATS procedure. MU can be obtained by contacting one of the LMATS ISO 17025 accredited laboratory.
5. If this report does not specify acceptance criteria, then the test or inspection results should be referred to a competent authority for further action.
6. Refer to the attached revision notes (if this report is revised). This report shall not be reproduced except in full without approval of the issuing laboratory to ensure that parts of a report are not taken out of context. The client or their representatives shall not edit this report.
7. LMATS or its professional indemnity insurance provider do not indemnify the contents within this report or the conformity of a tested product unless the invoice for the reported work is paid in full within the agreed credit terms. Reports will be revoked if the invoice for the completed work is not paid in full.

Test Report

To	C O D	Report No.	MTS-39591-2 C O D
Order No.	COD - lester michel <lmfour@bigpond.com>	Reference No.	LP22-1444-2
		Issue Date	19/08/2022
		Test Date	19/08/2022

Introduction

Reo Bar Chair Blocks were received for the purpose of load testing as per AS/NZS 2425-2015 Clause 6 and load testing to failure.

Test Item(s) Three (3) Reo Bar Chair Blocks - 75 mm

Details

ID	Item/Heat No.	Dimensions/Type/Details
LP22-1444/07	-	Reo Bar Chair Block - 75mm
LP22-1444/08	-	Reo Bar Chair Block - 75mm
LP22-1444/09	-	Reo Bar Chair Block - 75mm with bottom plate

Examinations & Tests

Test 1 - AS/NZS 2425-2015

- The bar chair block was placed on a flat steel plate.
- The load was applied by way of a 24 mm diameter plain round steel pin for strength grade >300.
- A 20 kg Pre-Load was applied on the bar chair block, at which the datum point was established.
- The load was increased at a uniform rate to 300 kg, and held for 2 min. The deflection under load was measured.
- The load was reduced to 20 kg, and the permanent set was measured.

Test 2 - Failure

- The bar chair block was placed on a flat steel plate.
- The load was applied by way of a 24 mm diameter plain round steel pin for strength grade >300.
- The load was increased at a uniform rate until failure occurred. The failure load and mode of failure was noted.

Summary

The results of Test 1 reported herein COMPLIED with the requirements of AS/NZS 2425 - 2015, Clause 6.4 and Table 1.

The result of Test 2 reported herein were not subject to assessment and are provided for information purposes only.



Mohsen Alvani
Materials Engineer

Results

Test 1 - AS/NZS 2425:2015 Clause 6

Test Specification AS/NZS 2425:2015 **Test Procedure** Compression test

Specimen ID	Observations	Assessment
LP22-1444/07	Test Load: 300kg Hold Time: 120 seconds Deflection Under Load: 0.99 Permanent Set: 0.44	COMPLIES
LP22-1444/08	Test Load: 300kg Hold Time: 120 seconds Deflection Under Load: 0.76 Permanent Set: 0.29	COMPLIES
LP22-1444/09	Test Load: 300kg Hold Time: 120 seconds Deflection Under Load: 1.28 Permanent Set: 0.41	COMPLIES

Requirements Deflection Under Load: ± 3.0 mm max. Permanent Set: ± 2.0 mm max.

Test 2 - Failure

Test Specification Client Specification **Test Procedure** Compression test

Specimen ID	Observations
LP22-1444/07	Failure Load: 1417 kg Failure Mode: The bar chair block cracked in half.
LP22-1444/08	Failure Load: 1274 kg Failure Mode: Deformation of the bar chair block's base feet was observed.
LP22-1444/09	Failure Load: 1346 kg Failure Mode: Deformation of the bar chair block's base feet was observed.

Results

Photographs



As Received - 07 - 08 - 09



Test Setup - 07 - 08 - 09

Results

Photographs



Typical Base Feet Failure



Typical Crack Failure



LMATS Pty Ltd
ABN 41 107 100 925
3/52 Cocos Drive Bibra Lake Western Australia 6163
Tel 08 9418 6380 Fax 08 9434 1328

Notes

- 1. All test and inspection items will be discarded after 6 weeks, unless retrieved by the client's representative*
- 2. Samples, identification of samples and all job specific details were supplied by the client.*
- 3. Any stated nominal pipe sizes and nominal thickness of the material were provided by the client.*
- 4. Where applicable, the Measurement Uncertainty (MU) applies to the test results as per LMATS procedure. MU can be obtained by contacting one of the LMATS ISO 17025 accredited laboratory.*
- 5. If this report does not specify acceptance criteria, then the test or inspection results should be referred to a competent authority for further action.*
- 6. Refer to the attached revision notes (if this report is revised). This report shall not be reproduced except in full without approval of the issuing laboratory to ensure that parts of a report are not taken out of context. The client or their representatives shall not edit this report.*
- 7. LMATS or its professional indemnity insurance provider do not indemnify the contents within this report or the conformity of a tested product unless the invoice for the reported work is paid in full within the agreed credit terms. Reports will be revoked if the invoice for the completed work is not paid in full.*