

TEST REPORT

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| | | |
|-------------------------------------|----------|--|
| Product | : | REINFORCEMENT COUPLERS FOR MECHANICAL SPLICES FOR 32mm DIAMETER REBAR GRADE B500DWR |
| Type of Test | : | AXIAL FORCE HIGH CYCLE FATIGUE TEST |
| Test Requirement/ Method | : | ISO 15835-1: 2018 – Steels for reinforcement of concrete – Reinforcement couplers for mechanical splices of bars – Part 1: Requirements. ISO 15835-2: 2018: - Steels for reinforcement of concrete – Reinforcement couplers for mechanical splices of bars – Part 2: Test methods |
| Date of Issue | : | 12 th of March 2025 |
| Name of Client | : | GPH ISPAT LIMITED |
| Address (Office) | : | Crown Chamber, 325 Asadgonj, Chattogram-4000, Bangladesh. |
| Sampling Location | : | N/A |
| Job Ref. No. | : | AMS/24333/GPH/01 |
| TPIB No. | : | N/A |
| Test Report Series | : | 9 of 9 |
| No. of Sample | : | refer attachment |
| Sample Nominal Size | : | N/A |
| Date of Receipt | : | 29 th of November 2024 |
| Date of Test | : | 19 th to 21 st of February 2025 |
| Tested By | : | Nusantara Technologies Sdn Bhd. |

Prepared by :

Name :

Mohmad Fazli bin Halim
Test Engineer
Construction Research Institute
of Malaysia (CREAM)




Approved by :

Name :

Ahmed Hafiz Md. Rehman
Lab Manager
Makmal Kerja Raya Malaysia
Construction Research Institute
of Malaysia (CREAM)



**Construction Research Institute of Malaysia (CREAM)**

Makmal Kerja Raya Malaysia,
Lot 8, 1st Floor, Seksyen 91, Jalan Chan Sow Lin,
55200 Kuala Lumpur, MALAYSIA
Tel: +603 – 9212 0165 Fax: +603 – 2779 1474
Email: general@cream.my Website: <http://www.cream.my>

TEST REPORT**TR****AXIAL FORCE FATIGUE TEST****Details Provided by Client**

Specimen : Mechanical Splice Grade : B500DWR
Nominal Diameter, d : 32 mm Sample ID : GPH QUANTUM B500DWR 32
(if any) _____

Sample ID : N/A Sample Condition : **Good**
Temperature : N/A Humidity : N/A

Result :

| Test Parameter | Sample 1 | Sample 2 | Sample 3 |
|---|-------------------------------|----------|----------|
| Free length (mm) | 448 | 448 | 448 |
| Coupler length (mm) | 72 | 72 | 72 |
| Coupler Diameter (mm) | 50 | 50 | 50 |
| Bar Nominal Cross Section Area (mm ²) | 804 | | |
| Upper stress, 0.6ReH (Mpa) | 300 | | |
| Stress Range (Mpa) | 60 | | |
| Cycles | 2000051 | 2000057 | 2000055 |
| Result (Observation) | Cycle completed with no break | | |



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END OF TEST REPORT





NUSANTARA TECHNOLOGIES SDN. BHD.
(MATERIAL DIVISION)

188901010451 (187753-D)

No. 5, Jalan Anggerik Mokara 31/45, Seksyen 31, Kota Kemuning,
40460 Shah Alam, Selangor Darul Ehsan, Malaysia.

Tel: 603-5122 9766/7/8 Fax: 603-5122 8766/7 E-mail: info@nusatek.com



SAMM NO. 545

Title

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**MECHANICAL TEST
REPORT**

Your Ref. :
Our Ref. : NT/250607-01
Issue No. : 01
Revision No. : 00

Report No.
MAT/0607-01/25

Date Received : February 12, 2025
Date Tested : February 19, 2025 -
February 21, 2025
Date Issued : March 03, 2025

Client

CONSTRUCTION RESEARCH INSTITUTE OF MALAYSIA (CREAM)
Level 14, CIDB 520, The Met Corporate Towers,
No. 20, Jalan Dutamas 2,
50480 Kuala Lumpur.

Sample Information

Subject : To Conduct Mechanical Test on Reinforcement Bar with Coupler
Sample Description : Reinforcement Bar with Coupler
Material Specification : B500DWR
Material Size : Ø32 mm (Reinforcement Bar)
Test Required : 1.0 Axial force Fatigue Test (High-Cycle) 3 pcs.
Test Specification : ISO 15835 PART 1 – 2018 EDITION

Disclaimer : "The sample and its information have been provided by the customer, and the test results applied to the sample as received"

| Tested by : | Prepared by : | Approved Signatory : |
|--|---|--|
| Mohd Salman Bin Mohd Isa Sr. Lab. Technician (No Signature Required) | Artikah Binti Meor Radhi Material Engineer |  Norhidayah Binti Saidon Sr. Material Engineer  |

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Metrology & NDT Division : No. 9, Jalan Sungai Jerih 32/196, Seksyen 32, Bukit Kemuning, 40460 Shah Alam, Selangor Darul Ehsan, Malaysia. Tel: 603-5525 1766 Fax: 603-5525 2766

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|--|--|-------------|
| Report No. MAT/0607-01/25 Issue No. : 01 (Rev00) | Title TEST RESULT (Sample Reference : PI/WPS/AWS/FCAW/355/4G) | Page 2 of 2 |
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1.0 Axial force Fatigue Test (High-Cycle)

| | |
|--|--|
| 1.1 Type of Fatigue Specimen | : Reinforcement Bar with Coupler |
| 1.2 Test Method | : ISO 15835 PART 2 – 2018 EDITION |
| 1.3 Fatigue Requirement | : Test specimen shall survived at least 2×10^6 cycles without failure |
| 1.4 Stress Range | : 60 N/mm ² |
| 1.5 Upper Stress (0.6R _{ut}) | : 300 N/mm ² |

| Specimen No. | Sample 1 | Sample 2 | Sample 3 |
|--|------------|------------|------------|
| Coupler Length (mm) | 72 | 72 | 72 |
| Coupler Diameter (mm) | 50 | 50 | 50 |
| Bar Nominal Diameter (mm) | 32 | 32 | 32 |
| Bar Nominal Cross Section Area (mm ²) | 804 | 804 | 804 |
| Mechanical Splice Length (mm) | 136 | 136 | 136 |
| Free Length (mm) | 448 | 448 | 448 |
| Specimen Length (mm) | 890 | 890 | 890 |
| Stress Range σ _u (N/mm ²) | 60 | 60 | 60 |
| Upper Stress, 0.6 σ _{ut} (N/mm ²) | 300 | 300 | 300 |
| Cycle | 2000051 | 2000057 | 2000055 |
| Observation | No Failure | No Failure | No Failure |



The above mentioned test were witnessed by

| | | |
|--------------|--------------|--------------|
| Name : _____ | Name : _____ | Name : _____ |
|--------------|--------------|--------------|

*****END-OF-REPORT*****

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