

TEST REPORT

TR

Product : **REINFORCEMENT BAR 20mm DIAMETER GRADE B600D-R**

Type of Test : **AXIAL FORCE FATIGUE TEST**

Test Requirement/ Method : BDS ISO 6935-2:2021 – Steel for reinforcement of concrete – Part 2: Ribbed bars/ BDS ISO 15630-1:2021 – Steel For the reinforcement and prestressing of concrete – Test Methods – Part1: Reinforcing bars, rods and wire. (Bangladesh)

Date of Issue : 13th of February 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 : 8 of 9

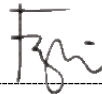
No. of Sample : refer attachment

Sample Nominal Size : N/A

Date of Receipt : 29th of November 2024

Date of Test : 30th of December 2024

Prepared by :



Name : **Mohamad Fazli bin Halim**
Test Engineer
Construction Research Institute
of Malaysia (CREAM)



Approved by :



Name : **Aliyaz Hasni Abdul Rahim**
Lab Manager
Makmal Kerja Raya Malaysia
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**Construction Research Institute of Malaysia (CREAM)**

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Email: general@cream.my Website: <http://www.cream.my>

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

Specimen : Reinforcement Bar Grade : B600D-R
Nominal Diameter, d : 20 mm Sample ID : GPH QUANTUM B600D-R 20
(if any)

Sample ID : N/A Sample Condition : Good
Temperature : 19.4~24.2°C Humidity : N/A

Result :

Test Parameter	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Free length (mm)	453	453	454	454	455
Test date	6/1/2025~ 7/1/2025	7/1/2025~ 8/1/2025	8/1/2025~ 9/1/2025	9/1/2025~ 10/1/2025	10/1/2025~ 11/1/2025
Frequency (Hz)	75				
Upper load (kN)	72.66				
Lower Force (kN)	14.53				
Range (Mpa)	185				
Cycles	5000001	5000001	5000008	5000008	5000005
Result (Observation)	Cycles completed with no crack				



Report Ref. No. : TR/24333/GPH/02/08

Page No. : Page 2 of 3

This report IS NOT a Quality Assurance Certification and NEITHER an Endorsement Certificate. The report represents only samples received by CREAM and tested at Makmal Kerja Raya. The Laboratory personnel is not involved in the sampling and selection of sample for testing. The Laboratory is not responsible for all data and information provided by Client which can affect the validity of the results. The report is confidential and not to be used for advertising purposes. Reproduction of the report is not permitted except in full, with written approval from Chief Executive Officer, CREAM.



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THE USE OF TEST REPORT/DATA

- 1.1 The test report/data produced is solely for the client business operation and not for advertising purposes.
- 1.2 Test report/data will be issued in respect of Term of Services and shall be related only to the actual sample tested. The test result represents the actual sample only not its duplication or mass productions.
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END OF TEST REPORT



Report Ref. No. : TR/24333/GPH/02/08

Page No. : Page 3 of 3

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SOIL INSTRUMENTS (M) SDN. BHD. MATERIAL TESTING SERVICES No. 12, Jalan Umarid US/14, Seksyen U5 40150 Shah Alam, Selangor Darul Ehsan Tel : 03-7859 1353 Fax : 03-7859 1566 Email : HQ-Lab@soil.com.my	TEST REPORT : Axial Force Fatigue Test	 

Client : Construction Research Institute of Malaysia (CREAM)

Project : Internal Testing

Report Ref : SIM/MTS/CREAM/IT/AFF/0002

Date Received : 30-Dec-24	Location : -
Date Tested : 06-Jan-25	Ambient Temperature : 20.0°C
Test frequency (Hz) : 75	Range of Specimen Temperature : 19.4°C - 24.2°C
Grade of Steel **** : B600D-R	

Test Procedure : BS EN ISO 15630-1:2019 / MS 146:2014 / MS ISO 15630-1:2012

Specimen Ref. :	CREAM RE 0002 F-A	CREAM RE 0002 F-B	CREAM RE 0002 F-C	CREAM RE 0002 F-D	CREAM RE 0002 F-E	Specification
Manufacturer/Supplier	**** GPH Ispat Limited					-
Heat No/Mill Cert.Number	N/A					-
Date Start	06-Jan-25	07-Jan-25	08-Jan-25	09-Jan-25	10-Jan-25	-
Time Start	14:00	9:00	9:20	10:00	10:05	-
Date End	07-Jan-25	08-Jan-25	09-Jan-25	10-Jan-25	11-Jan-25	-
Time End	8:00	3:00	3:20	4:00	4:30	-
Nominal Diameter, d (mm)	20					-
Mass of Specimen, M (kg)	1.100	1.102	1.109	1.107	1.112	-
Length of the Specimen, L (m)	0.453	0.453	0.454	0.454	0.455	-
Mass per Metre (kg)	2.429	2.433	2.443	2.438	2.444	-
Nominal Cross Sectional Area (mm ²)	314	314	314	314	314	-
Free Length between the Grips (mm)*	280	280	280	280	280	≥ 140 mm / 14d
Cycles	5000001	5000001	5000008	5000008	5000005	
Apply Load (kN)**	43.57					Lower load
						14.53
Stress Range (MPa) **	185					Upper load
						72.05
						Lower stress
						45.25
						Upper stress
						231.25
Observation / Validity ***	No Failure Observed	No Failure Observed	No Failure Observed	No Failure Observed	No Failure Observed	
Remarks	-	-	-	-	-	

Note : * Specification from BS EN ISO 15630-1:2019 Clause 8.2

** Specification from MS 146:2014 Clause 7.3.4.1

*** If failure occurs in the grips or within a distance of 2d of the grips, or initiates at an exceptional feature of the test piece, the test may be considered as invalid.

**** Information was provided by the client

Authorized Signatory :



Hisham Husin
Laboratory Manager