

Test Report of Metallic Materials

Report No. : MM-1501229

Receive Date : 2015.11.30

Report Date : 2015.12.01

Project Name : Highway Construction For Provincial Highway No.9 Improvement Project Su'ao Yongle Section

Client : RSEA Engineering Corporation

Client's Address : No. 91, Yongchun Rd., Su'ao Township, Yilan County 270, Taiwan(R.O.C)

Contractor : RSEA Engineering Corporation

Supplier : WECAND Enterprise Co., Ltd.

Sampler : Sinotech Engineering Consultants, Ltd. (Huang, Wen-Cheng)
RSEA Engineering Corporation (Chiang, Ruei)

Transporter : See Remark 5

Witness : N/A

Remarks : 1. This report is responsible for the test samples only.

2. The content of this report shall not be reproduced except in full.

3. This report will be preserved for 3 years.

4. Owner: Suhua Improvement Engineering Office, Directorate General of Highway, Ministry of Transportation and Communication.

Construction Supervisor: SINOTECH Engineering Consultants, Ltd.

Material Test Application No. : A1-M02-201.



Sampling Date/Location: 2015.11.27/South Portal of Su'ao Tunnel.

(The informations of this section are provided by client)

5. The testing samples were collected by Suhua Highway Improvement Project A1-A3, B1-B4, C1A-C2 Site Laboratory at the job site on 2015.11.27 (Report No. I505847X), and transported by Huang, Wen-Cheng (Sinotech Engineering Consultants, Ltd.) and Chiang, Ruei (RSEA Engineering Corporation). Our laboratory was requested by Hsieh, Herng-Ji (CECI Nova Technology Co., Ltd.) to conduct this test.

For and on behalf of
WECAND ENTERPRISE CO., LTD.


Authorized Signature(s)

Laboratory Supervisor: Approval Signatory : 

Test Report of Metallic Materials

Report No. : MM-1501229

Test Date : 2015. 12. 01

Materials[Specification]: Nut for rock bolt[ASTM A563(2007a)], Washer

Test Method: ASTM F606/F606M(2014a)/ASTM E415(2014)/ASTM A563(2007a)

1. Nut Mechanical Property Test

Specimen No. (Heat number)	Product Grade	Product Marking	Hardness
A1-M02-201-2 (342353)	Grade A(hex)	φ 25 mm	29 HRC
Requirement for Specification			68 HRBW ~ 32 HRC

2. Chemical Composition Analysis

Specimen No. (Heat number)	Product Grade	Product Marking	Chemical Composition(%)				
			C	Mn	P	S	Si
A1-M02-201-2 (342353)	Grade A(hex)	φ 25 mm	0.33	0.89	0.012	0.003	0.07
Requirement for Specification			≤ 0.58	—	≤ 0.13	—	—

3. Washer Mechanical Property Test

Specimen No. (Heat number)	Product Grade	Product Marking	Hardness
A1-M02-201-3 (338135)	—	φ 25 mm	82 HRBW
Requirement for Specification			69 HRBW ~ 100 HRBW

4. Chemical Composition Analysis

Specimen No. (Heat number)	Product Grade	Product Marking	Chemical Composition(%)				
			C	Mn	P	S	Si
A1-M02-201-3 (338135)	—	φ 25 mm	0.13	0.65	0.025	0.008	0.20
Requirement for Specification			≤ 0.33	≤ 1.25	≤ 0.041	—	—

Remark: Requirement for Specification are specified by the client in accordance with

ASTM A307 (2014) Grade A .

For and on behalf of
WECAND ENTERPRISE CO., LTD.


Authorized Signature(s)

Laboratory Supervisor:

副理陳在炳

Approval Signatory:

