MTR ENGINEERING SDN. BHD.
(CO.NO:32999 -W)
1st Floor, Block C, Lot 23A, Bundusan Commercial Centre,
Jalan Bundusan, 88300 Kota Kinabalu, Sabah.
E-mail:- mtrengineeringsdnbhd@gmail.com
TEL : 088-723935 FAX : 088-723934

Rujukan Tuan :
Rujukan Kami : MTR/KPKT/JBPM/2021/067
Tarikh : 18 Ogos 2021

ALASIM OMAR ARCHITECT
F-27-1, Royal Plaza Putatan KM11.2,
Jalan Putatan,
88200 Kota Kinabalu, Sabah.
Tel : 013-397 5752
Email : alasim.architect@gmail.com

Tuan,

PEMBINAAN PROJEK BALAI BOMBA DAN KUARTERS PUTATAN, SABAH
(KPKT/BPEMB/JPBM/6/14/2021)
- Method of Statement Submission: Red Brick [Second Submission]

Merujuk kepada perkara di atas.

02. Bersama-sama dengan surat ini disertakan dokumen laporan ujian dan brosur "*Red Brick*" untuk ulasan dan kelulusan dari pihak tuan.

03. Segala perhatian dan kerjasama daripada pihak tuan amatlah dihargai

Sekian dan Terima Kasih.

Yang Benar,

PUNCAK GEMILANG GLOBAL SDN BHD
Company No 201301023908 (1058819-W)

.....
MTR Engineering Sdn.Bhd
(SUFIAN BIN SUTRESNO)
Pengurus Pembinaan

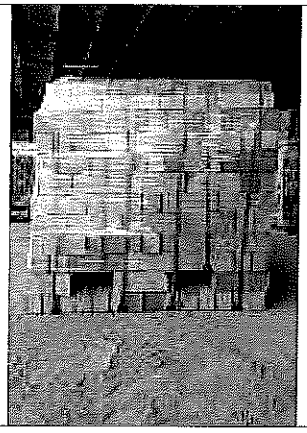
sk.
~ Kementerian Perumahan Dan Kerajaan Tempatan
~ Perunding Ideal
~ Jurutera Perunding Intelek S/B
~ Jurukur Bahan Konsultant (Sabah)

CHRB BUILDING MATERIALS SDN BHD

(A Member to Chuan Huat Group) **(701128-U)**

GST Registration no: 001227816960

Lot 18, Block B-9, 1st Floor, Alamesra Permai Plaza,
Jalan Sulaman, 88400 Kota Kinabalu, Sabah
Tel: 088-486381, 486382 **Fax: 088-448380**

Item	Description	Quantity
	RED BRICK (Ex Putatan)	
	Red brick (580 pcs/plt) Size / Dimensions : 210mm (L) x 90mm(W) x 65mm (H)	Full Load via Trailer (16 pallet) Minimum order 7 pallet
		

for **CHRB Building Materials Sdn Bhd**
ALFRED LAU ZENG NING
016-8745789

BORANG KELULUSAN BAHAN/PEMERIKSAAN MOCK-UP

Nota: * Poto
*Nota:

PROJEK: MEMBINA BALAI BOMBA DAN KUARTERS PUTATAN, SABAH. No. Kontrak : KPKT/BPEMB/JBPM/6/14/2020		Kontraktor : MTR ENGINEERING SDN BHD	
BUTIRAN KERJA KELULUSAN BAHAN/MOCK-UP/ DESKRIPSI ITEM SAMPEL: **Metal Roofing**		Lokasi *Mock-~~up~~/ Bahan/Kerja : Kota Kinabalu	Tarikh: 16 Ogos 2021
Model: Kod Item:	Pengilang: CHRB BUILDING MATERIALS SB	Negara Asal: Malaysia	Pengedar Tempatan: CHRB BUILDING MATERIALS SB

PERAKUAN PERUNDING (C&S) (*Jika projek R&B*):

Saya dengan ini mengesahkan bahawa cadangan bahan/peralatan/*mock-up* adalah mematuhi kehendak spesifikasi dan berfungsi seperti kehendak kontrak.

Disertakan

Katalog [X] Lukisan [ ] Sampel Bahan [ ] Spesifikasi [X] Sijil [ ]

Sampel kerja [ ] *Mock-up* [ ]

Tandatangan Perunding C&S*	Jawatan/Cap Rasmi
Nama :	Tarikh :

PERAKUAN KONTRAKTOR :

Saya dengan ini berjanji akan mematuhi kehendak CPP/Perunding* dan memastikan *bahan/peralatan/mock up/kerja yang dicadangkan mengikut spesifikasi dan berfungsi seperti di dalam kontrak.

Tandatangan Wakil Kontraktor	Jawatan/Cap Rasmi
Nama : Sufian Bin Sutresno	Tarikh :16/08/2021

KEPUTUSAN JKR CPP:

Dipersetujui (*concurred*) [ ]

Walaupun perkara di atas telah dipersetujui, adalah menjadi tanggungjawab kontraktor bagi memastikan *bahan/peralatan/mock up/kerja mematuhi kehendak spesifikasi dan berfungsi seperti yang telah dinyatakan di dalam kontrak.

Ditolak dan perlu kemukakan semula [ ]

Tandatangan KUR*(Arkitek/M&E/C&S)/Wakil PP	Jawatan/Cap Rasmi
Nama :	Tarikh

*Nota : Potong mana yang tidak berkenaan.

STL GEOTECHNICAL ENGINEERING SDN BHD

Company No : 256000 - X

COMPRESSIVE STRENGTH FOR BRICK (MS 1934-1:2007)

CLIENT : **Kien Nan Industrial Co. SDN.BHD.**

PROJECT : QAQC

LOCATION : -

DESCRIPTION : RED BRICK (Non-hollow)

Date Of Crushing : 05-02-2021

Date Of Casting : Refer Client/Supplier

Age Of Brick : Refer Client/Supplier

Sample No.	Dimension (L X W X H)(mm)			Weight Of Sample (g)	Surface Area (mm^2)	Volume Of Sample (cm^3)	Density Of Sample (kg/m^3)	Crushing Load (kN)	Compressive Strength (MN/m^2)/MPa	Strength in PSI (PSI)	Remarks
	L	W	H								
1	209	93	63	2,505	19,437	1,224.5	2,045.7	633.69	**32.60**	4,728.56	
2	208	93	65	2,574	19,344	1,257.4	2,047.1	643.53	**33.27**	4,825.07	
3	207	92	60	2,418	19,044	1,142.6	2,116.2	608.17	**31.93**	4,631.78	
4	209	94	65	2,431	19,646	1,277.0	1,903.7	413.57	**21.05**	3,053.20	
5	206	93	63	2,588	19,158	1,207.0	2,144.2	614.99	**32.10**	4,655.85	
6	205	92	63	2,487	18,860	1,188.2	2,093.1	523.91	**27.78**	4,028.99	
7	208	94	63	2,414	19,552	1,231.8	1,959.8	587.23	**30.03**	4,356.10	
8	205	94	63	2,463	19,270	1,214.0	2,028.8	458.56	**23.80**	3,451.40	
9	205	92	63	2,537	18,860	1,188.2	2,135.2	821.75	**43.57**	6,319.44	
10	207	95	65	2,561	19,665	1,278.2	2,003.6	651.58	**33.13**	4,805.68	
						Mean	**2,047.7**	**595.7**	**30.9**	4,485.6	
						Characteristic compressive strength, fk = f/1.2			**25.8 N/mm²**		

Note * MPa @ N/mm^2 = 145.038 psi

* Samples prepared & submitted by Client's representatives

Tested By : Azizul & Rives Date : 05-02-2021

Checked By : Roger Yong Date : 06-02-2021

STL GEOTECHNICAL ENGINEERING SDN BHD.

Version : October 2016

STL GEOTECHNICAL ENGINEERING SDN BHD

Company No : 256000 - X

COMPRESSIVE STRENGTH FOR BRICK (MS 1934-1:2007)

CLIENT : **Kien Nan Industrial Co. SDN.BHD.**

PROJECT : QAQC

LOCATION : -

DESCRIPTION : RED BRICK (Non-hollow)

Date Of Crushing : 05-02-2021

Date Of Casting : Refer Client/Supplier

Age Of Brick : Refer Client/Supplier

Sample No.	Dimension (L X W X H) (mm)			Weight Of Sample (g)	Surface Area (mm^2)	Volume Of Sample (cm^3)	Density Of Sample (kg/m^3)	Crushing Load (kN)	Compressive Strength (MN/m^2)/MPa	Strength in PSI (PSI)	Remarks
	L	W	H								
1	211	95	65	2,488	20,045	1,302.9	1,909.5	435.34	**21.72**	3,149.95	
2	207	92	64	2,576	19,044	1,218.8	2,113.5	598.50	**31.43**	4,558.13	
3	204	93	63	2,543	18,972	1,195.2	2,127.6	663.37	**34.97**	5,071.35	
4	205	92	63	2,536	18,860	1,188.2	2,134.4	801.94	**42.52**	6,167.10	
5	206	94	64	2,533	19,364	1,239.3	2,043.9	570.30	**29.45**	4,271.59	
6	207	94	65	2,532	19,458	1,264.8	2,001.9	416.24	**21.39**	3,102.61	
7	209	93	64	2,467	19,437	1,244.0	1,983.2	540.67	**27.82**	4,034.45	
8	207	93	62	2,394	19,251	1,193.6	2,005.8	532.87	**27.68**	4,014.66	
9	205	93	62	2,550	19,065	1,182.0	2,157.3	477.22	**25.03**	3,630.47	
10	207	93	64	2,557	19,251	1,232.1	2,075.4	521.98	**27.11**	3,932.62	
						Mean	**2,055.3**	**555.8**	**28.9**	4,193.3	
						Characteristic compressive strength, fk = f/1.2			**24.1 N/mm²**		

Note * MPa @ N/mm^2 = 145.038 psi

* Samples prepared & submitted by Client's representatives

Tested By : Azizul & Rives Date : 05-02-2021

Checked By : Roger Yong Date : 06-02-2021

STL GEOTECHNICAL ENGINEERING SDN BHD.

GEOTECHNICAL ENGINEERING SDN. BHD. (Co. No. 256000-X)

Version : October 2016

Rev. : 00

SIRIM QAS International Sdn. Bhd. (410334-X)
No. 1, Persiaran Dato' Menteri, Section 2, P.O. Box 7035
40700 Shah Alam, Selangor Darul Ehsan, Malaysia
Tel: 03-55445854/5856
Fax: 03-55445886
www.sirim-qas.com.my

TEST REPORT

REPORT NO : 2017CBD096	PAGE : 1 OF 5

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Applicant.	:	SABAH BRANCH SIRIM QAS INTERNATIONAL SDN. BHD. (Attn : Ms. Reena Rahman)
Applicant / Licensee	:	KIEN NAN INDUSTRIAL COMPANY SDN. BHD. Kg. Kawang, 89500 Papar, Sabah.
Manufacturer		KIEN NAN INDUSTRIAL COMPANY SDN. BHD.
Product	:	Clay Bricks (HD units)
Reference Standard/ Method of test	:	MS 2282-1 : 2014 Masonry Units – Specification – Part 1 : Fired Clay Masonry Units. (First Revision).
Description of sample	:	Fifty (50) pieces of Common Clay Bricks (HD units) were received for testing through Sabah Branch, SIRIM Qas International Sdn. Bhd. (Ref no.: 149/2017/CCL/Q-0003-R1, Date : 18/04/2017) Nominal Size : 213 mm x 95 mm x 65 mm
Date Received of Complete Application	:	09th June 2017
Job No./Ref. No.	:	JD171430098 / SQAS / CCST / T.REC / MCL / 03
Description of test results	:	The test results of the submitted test samples are described in Page 2 to 5 of this test report.
Issued date	:	07 JUL 2017.

Approved Signatory

(MOHD HAFIZ MOHD NASIR)
Testing Executive

SIRIM QAS INTERNATIONAL SDN. BHD. Civil & Construction Section

(RAJA NOR SIHA RAJA ABD. HANAN)
Head
Civil & Construction Section
Testing Services Department

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TEST RESULTS:

Product : Clay Brick (HD Units)
Nominal Size : 213 mm x 95 mm x 65 mm
Method of test : a) MS 2282-1:2014
: Masonry Units – Specification – Part 1 : Fired Clay Masonry Units. (First Revision).
b) MS 1933-16:2007
Method of test for masonry units – Part 16 : Determination of Dimensions
c) MS 1933-20:2007
Method of test for masonry units – Part 20 : Determination of Flatness of faces of masonry units.

CLAUSE	REQUIREMENTS	TEST RESULT			REMARK
		Length (mm)	Width (mm)	Height (mm)	
5.3.1	Dimensions & Tolerances (HD units)				
5.3.1.1	Dimensions (HD units)				
	Nominal Size : 213 mm x 95 mm x 65 mm	1. 217	97	66	
5.3.1.2	Dimensional Tolerances (HD units)	2. 215	97	67	
5.3.1.2.2	Tolerances of the Mean Value (HD units) :	3. 214	97	66	
	T_m : ± 5 % declared size	4. 215	96	66	
		5. 213	96	66	Pass
	Length : ± 11 mm	6. 216	98	68	
	Width : ± 5 mm	7. 213	96	67	
	Height : ± 3 mm	8. 216	97	67	
		9. 214	97	66	
		10. 215	97	68	
	Average	**215**	**97**	**67**	
5.3.1.2.4	Flatness of Bed Faces (HD units)	Maximum Deviation : **0.60 mm**			Declared by Manufacturer
5.3.1.2.5	Plane parallelism of Bed Faces (HD units)	Maximum Deviation : **0.60 mm**			Declared by Manufacturer
5.3.2	Configuration (HD units)	**Solid unit**			Declared by Manufacturer

07 JUL 2017

SIRIM QAS INTERNATIONAL SDN. BHD. Civil & Construction Section

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TEST RESULTS:

Product : Clay Brick (HD Units)
Nominal Size : 213 mm x 95 mm x 65 mm
Method of test : a) MS 2282-1:2014
: Masonry Units – Specification – Part 1 : Fired Clay Masonry Units. (First Revision).
b) MS 1933-13:2007
Method of test for masonry units – Part 13: Determination of Net & Gross dry Density of Masonry Units (except for natural stone).

CLAUSE	REQUIREMENTS	OBSERVATIONS/ TEST RESULT	REMARK
5.3.3	Density (HD units)		
5.3.3.1	Gross dry density (HD units) The gross dry density of clay masonry units shall be declared by the manufacturer. For solid units with or without cells, the declaration of the gross dry density and its deviation may be taken equal to the net dry density.	<u>Gross & Net Dry Density</u> 1) 1880 kg/m^3 2) 1910 kg/m^3 3) 1880 kg/m^3 4) 1860 kg/m^3 5) 1890 kg/m^3 6) 1930 kg/m^3 7) 1800 kg/m^3 8) 1910 kg/m^3 9) 1830 kg/m^3 10) 1840 kg/m^3 **Mean: 1870 kg/m^3** ***Nearest 10 kg/m^3**	
5.3.3.2	Net dry density (HD units) The net dry density of clay masonry units shall be declared by Manufacturer.		Declared by Manufacturer
5.3.3.3	Tolerances (HD units). When clay masonry units are sampled from a consignment in accordance with Annex B and tested in accordance with MS 1933-13, the mean gross and dry density derived from measurement of the test sample shall not differ from manufacturer's declared dry density by more than D1 : 10% or D2 : 5 % or D_m : a deviation in % as whole number declared by Manufacturer.		

07 JUL 2017

SIRIM QAS INTERNATIONAL SDN. BHD. Civil & Construction Section

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TEST RESULTS:

Product : Clay Brick (HD Units)
Nominal Size : 213 mm x 95 mm x 65 mm
Method of test : a) MS 2282-1:2014
: Masonry Units – Specification – Part 1 : Fired Clay Masonry Units. (First Revision).
b) MS 1933-1:2007
Method of test for masonry units – Part 1: Determination of Compressive Strength
Clause 7.3.2 : Conditioning to air dry condition

CLAUSE	REQUIREMENTS	OBSERVATIONS/ TEST RESULT	REMARK
5.3.4	Compressive Strength (HD units) When the clay masonry units are sampled from a consignment in accordance with Annex B and tested in accordance with MS 1933-1, then: a) Mean compressive strength of the specified number of clay masonry units from a consignment shall be not less than the declared compressive strength; and b) Individual strength of specimens measured within the test sample shall be not less than 80 % of the declared value.	Compressive Strength 1) 40.9 N/mm^2 2) 39.4 N/mm^2 3) 40.6 N/mm^2 4) 44.7 N/mm^2 5) 32.4 N/mm^2 6) 34.6 N/mm^2 7) 34.9 N/mm^2 8) 33.5 N/mm^2 9) 37.7 N/mm^2 10) 30.8 N/mm^2 **Mean: 37.0 N/mm^2**	Declared by Manufacturer

07 JUL 2017

SIRIM QAS INTERNATIONAL SDN. BHD. Civil & Construction Section

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TEST RESULTS:

Product : Clay Brick (HD Units)
Nominal Size 213 mm x 95 mm x 65 mm
Method of test : a) MS 2282-1:2014
Masonry Units – Specification – Part 1 : Fired Clay Masonry Units. (First Revision).
b) MS 1933-11:2007
Method of test for masonry units – Part 11: Determination of water absorption of aggregate concrete, manufactured stone and natural stone masonry units due to capillary action in the initial rate of water absorption of clays masonry units

CLAUSE	REQUIREMENTS	OBSERVATIONS/ TEST RESULT	REMARK
5.3.7	Initial rate of water absorption (HD units) When clay masonry units are sampled from consignment in accordance with Annex B and tested in accordance with MS 1933-11 using an immersion period of (60 ± 2) s the mean initial rate of water absorption of the specified number of clay masonry units shall fall within the declared range of the initial rate of water absorption.	<u>Water Absorption by capillarity</u> 1) 2.30 kg/m^{2}min 2) 2.12 kg/m^{2}min 3) 2.74 kg/m^{2}min 4) 2.68 kg/m^{2}min 5) 2.78 kg/m^{2}min 6) 2.85 kg/m^{2}min 7) 1.57 kg/m^{2}min 8) 2.42 kg/m^{2}min 9) 2.10 kg/m^{2}min 10) 1.97 kg/m^{2}min **Mean: 2.35 kg/m^{2}min**	Declared by Manufacturer

07 JUL 2017

SIRIM QAS INTERNATIONAL SDN. BHD. Civil & Construction Section