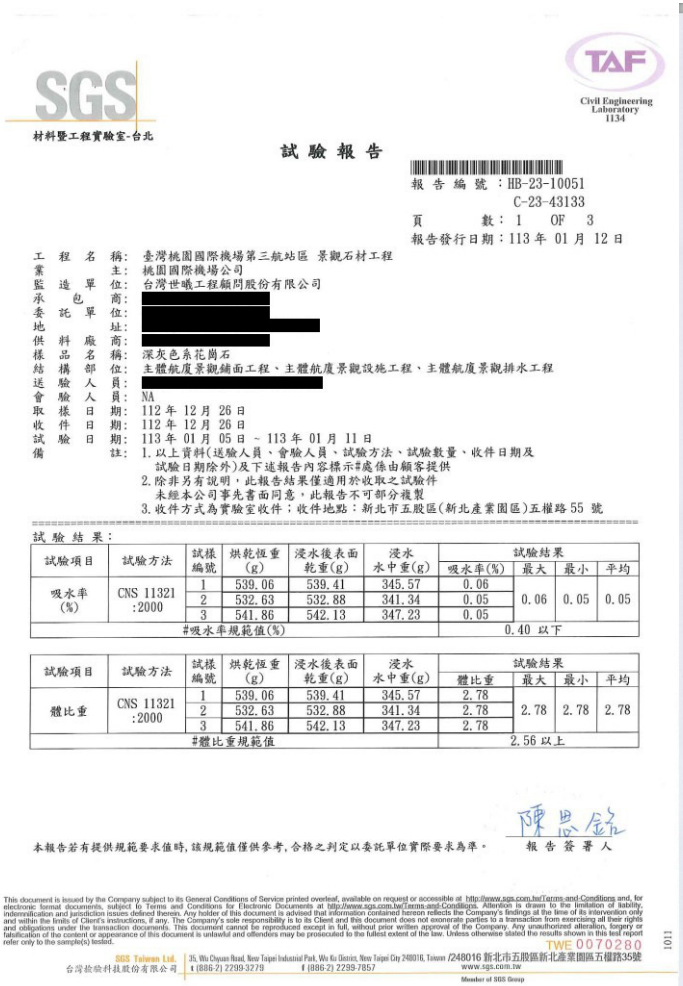


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材料暨工程實驗室-台北

TAF
Civil Engineering Laboratory
1134

試 驗 報 告

報 告 編 號 ：HB-23-10051
C-23-43133
頁　　數： 1　OF　3
報告發行日期：113 年 01 月 12 日

工　程　名　稱：臺灣桃園國際機場第三航站區 景觀石材工程
業　　主：桃園國際機場公司
監　造　單　位：台灣世曦工程顧問股份有限公司
承　包　商：[redacted]
委　託　單　位：[redacted]
地　　址：[redacted]
供　料　廠　商：[redacted]
樣　品　名　稱：深灰色系花崗石
結　構　部　位：主體航廈景觀鋪面工程、主體航廈景觀設施工程、主體航廈景觀排水工程
送　驗　人　員：[redacted]
會　驗　人　員：NA
取　樣　日　期：112 年 12 月 26 日
收　件　日　期：112 年 12 月 26 日
試　驗　日　期：113 年 01 月 05 日 ~ 113 年 01 月 11 日
備　　註：1. 以上資料(送驗人員、會驗人員、試驗方法、試驗數量、收件日期及試驗日期除外)及下述報告內容標示#處係由顧客提供
2. 除非另有說明，此報告結果僅適用於收取之試驗件未經本公司事先書面同意，此報告不可部分複製
3. 收件方式為實驗室收件；收件地點：新北市五股區(新北產業園區)五權路 55 號

試驗結果：

試驗項目	試驗方法	試樣編號	烘乾恆重(g)	浸水後表面乾重(g)	浸水水中重(g)	試驗結果 吸水率(%)	最大	最小	平均
吸水率(%)	CNS 11321 :2000	1	539.06	539.41	345.57	0.06	0.06	0.05	0.05
		2	532.63	532.88	341.34	0.05			
		3	541.86	542.13	347.23	0.05			
#吸水率規範值(%)						0.40 以下			

試驗項目	試驗方法	試樣編號	烘乾恆重(g)	浸水後表面乾重(g)	浸水水中重(g)	試驗結果 體比重	最大	最小	平均
體比重	CNS 11321 :2000	1	539.06	539.41	345.57	2.78	2.78	2.78	2.78
		2	532.63	532.88	341.34	2.78			
		3	541.86	542.13	347.23	2.78			
#體比重規範值						2.56 以上			

本報告若有提供規範要求值時，該規範值僅供參考，合格之判定以委託單位實際要求為準。

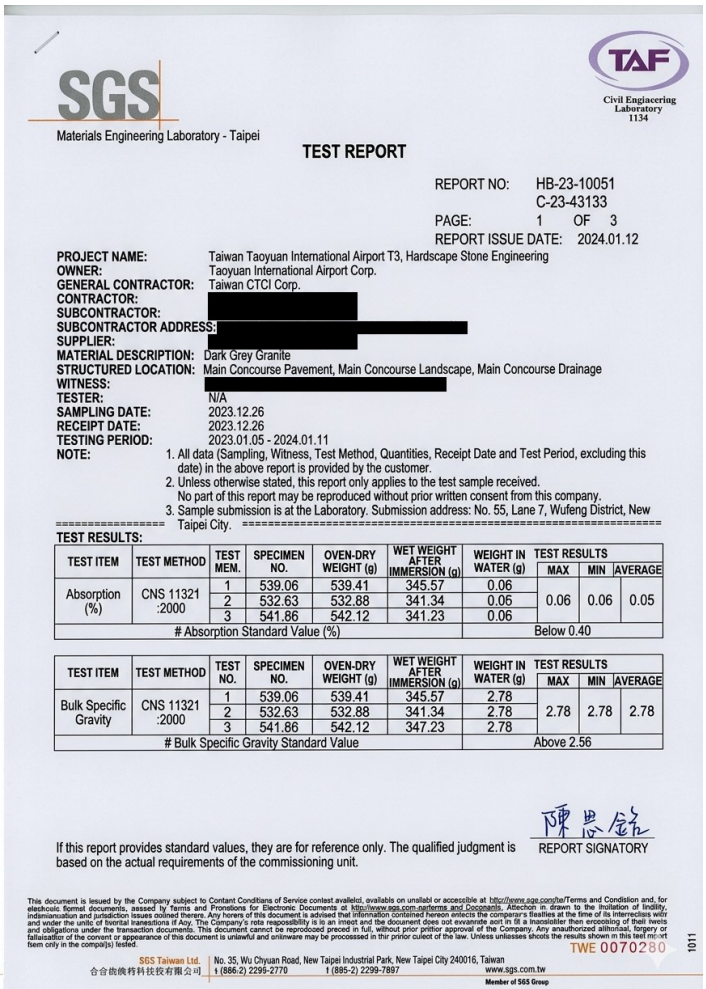
陳恩銘
報 告 簽 署 人

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TEST REPORT

REPORT NO: HB-23-10051
C-23-43133
PAGE: 1 OF 3
REPORT ISSUE DATE: 2024.01.12

PROJECT NAME: Taiwan Taoyuan International Airport T3, Hardscape Stone Engineering
OWNER: Taoyuan International Airport Corp.
GENERAL CONTRACTOR: Taiwan CTCI Corp.
CONTRACTOR: [redacted]
SUBCONTRACTOR:
SUBCONTRACTOR ADDRESS: [redacted]
SUPPLIER: [redacted]
MATERIAL DESCRIPTION: Dark Grey Granite
STRUCTURED LOCATION: Main Concourse Pavement, Main Concourse Landscape, Main Concourse Drainage
WITNESS: [redacted]
TESTER: N/A
SAMPLING DATE: 2023.12.26
RECEIPT DATE: 2023.12.26
TESTING PERIOD: 2023.01.05 - 2024.01.11
NOTE: 1. All data (Sampling, Witness, Test Method, Quantities, Receipt Date and Test Period, excluding this date) in the above report is provided by the customer.
2. Unless otherwise stated, this report only applies to the test sample received. No part of this report may be reproduced without prior written consent from this company.
3. Sample submission is at the Laboratory. Submission address: No. 55, Lane 7, Wufeng District, New Taipei City.

TEST RESULTS:

TEST ITEM	TEST METHOD	TEST MEM.	SPECIMEN NO.	OVEN-DRY WEIGHT (g)	WET WEIGHT AFTER IMMERSION (g)	WEIGHT IN WATER (g)	TEST RESULTS MAX	MIN	AVERAGE
Absorption (%)	CNS 11321 :2000	1	539.06	539.41	345.57	0.06	0.06	0.06	0.05
		2	532.63	532.88	341.34	0.05			
		3	541.86	542.12	341.23	0.06			
# Absorption Standard Value (%)						Below 0.40			

TEST ITEM	TEST METHOD	TEST NO.	SPECIMEN NO.	OVEN-DRY WEIGHT (g)	WET WEIGHT AFTER IMMERSION (g)	WEIGHT IN WATER (g)	TEST RESULTS MAX	MIN	AVERAGE
Bulk Specific Gravity	CNS 11321 :2000	1	539.06	539.41	345.57	2.78	2.78	2.78	2.78
		2	532.63	532.88	341.34	2.78			
		3	541.86	542.12	347.23	2.78			
# Bulk Specific Gravity Standard Value						Above 2.56			

陳恩銘
REPORT SIGNATORY

If this report provides standard values, they are for reference only. The qualified judgment is based on the actual requirements of the commissioning unit.

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TAF Civil Engineering Laboratory 1134

試 驗 報 告

報 告 編 號 ：HB-23-10051
C-23-43133
頁　　數： 2　OF　3
報告發行日期：113 年 01 月 12 日

試 驗 結 果：

試驗項目	試驗方法	試樣編號	#養護方式	試樣尺度 長(cm)	寬(cm)	高(cm)	試驗結果 抗壓強度 (kgf/cm²)	平均抗壓強度(kgf/cm²)
抗壓強度	CNS 11319 :2000	1	乾燥狀態	5.752	5.742	5.916	1342	1666
		2		5.732	5.726	5.966	1415	
		3		5.752	5.764	5.932	1591	
		4		5.762	5.744	5.972	1914	
		5		5.712	5.792	5.974	2066	
#抗壓強度規範值(kgf/cm²)								1336 以上

註：#因顧客未提供石材裂理方向，故無法出具垂直與平行裂理方向之抗壓強度。

試驗項目	試驗方法	試樣編號	#養護方式	試樣尺度 長(cm)	寬(cm)	厚(cm)	試驗結果 彎曲強度 (kgf/cm²)	平均彎曲強度 (kgf/cm²)	標準差
彎曲強度	CNS 13976 :1997	1	乾燥狀態	36.082	4.587	3.027	194	184	19
		2		36.064	4.581	3.022	191		
		3		36.068	4.544	3.031	151		
		4		36.088	4.563	3.035	188		
		5		36.018	4.561	3.024	196		
#彎曲強度規範值(kgf/cm²)								84.35 以上	

註：#因客戶未提供石材裂理方向，故無法出具垂直與平行裂理方向之彎曲強度。

試驗項目	試驗方法	試樣編號	#養護方式	試樣尺度 長(cm)	寬(cm)	厚(cm)	試驗結果 破壞模數 (kgf/cm²)	平均破壞模數 (kgf/cm²)
破壞模數	CNS 11322 :2000	1	乾燥狀態	20.056	10.036	5.762	166	177
		2		20.064	10.064	5.743	188	
		3		20.082	10.038	5.759	168	
		4		20.068	10.092	5.747	181	
		5		20.052	10.012	5.771	184	
#破壞模數規範值(kgf/cm²)								105.47 以上

註：#因客戶未提供石材裂理方向，故無法出具垂直與平行裂理方向之破壞模數。

本報告若有提供規範要求值時，該規範值僅供參考，合格之判定以委託單位實際要求為準。

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MATERIALS & ENGINEERING LABORATORY - TAIPEI TEST REPORT

TAF Civil Engineering Laboratory 1134

Test Results

HB-23-10051 /
Report No. : C-23-43133
Report No. : HB-23-10051
Report No. : C-23-43133
Page No. : 2 OF 3
Report Issue Date: JAN 12, 2024

Test Results:

Test Item	Test Method	Specimen No.	Curing Method	Specimen Dimensions: Length(cm)	Width(cm)	Height(cm)	Test Results: Compressive Strength (kgf/cm²)	Average Compressive Strength (kgf/cm²)
Compressive Strength	CNS 11319 : 2000	1	Dry State	5.752	5.742	5.916	1342	1666
		2		5.732	5.726	5.916	1415	
		3		5.752	5.764	5.932	1591	
		4		5.752	5.744	5.912	1914	
		5		5.712	5.742	5.974	2066	
# Compressive Strength Specification Limit (kgf/cm²)								1336 or more

Note: # Since the customer did not provide the stone texture direction, the compressive strength perpendicular and parallel to the texture direction cannot be provided.

Test Item	Test Method	Specimen No.	Curing Method	Specimen Dimensions: Length(cm)	Width(cm)	Thickness (cm)	Test Results: Flexural Strength (kgf/cm²)	Average Flexural Strength (kgf/cm²)	Standard Deviation
Flexural Strength	CNS 13976 : 1997	1	Dry State	36.082	4.587	3.027	194	184	19
		2		36.084	4.587	3.022	191		
		3		36.088	4.544	3.031	151		
		4		36.088	4.564	3.033	188		
		5		36.088	4.561	3.024	196		
# Flexural Strength Specification Limit (kgf/cm²)								84.35 or more	

Note: # Since the customer did not provide the stone texture direction, the flexural strength perpendicular and parallel to the texture direction cannot be provided.

Test Item	Test Method	Specimen No.	Curing Method	Specimen Dimensions: Length(cm)	Width(cm)	Thickness (cm)	Test Results: Modulus of Rupture (kgf/cm²)	Average Modulus of Rupture (kgf/cm²)
Modulus of Rupture	CNS 11322 : 2000	1	Dry State	20.056	10.036	5.762	166	177
		2		20.054	10.036	5.743	168	
		3		20.082	10.038	5.738	168	
		4		20.068	10.032	5.747	181	
		5		20.052	10.012	5.771	184	
# Modulus of Rupture (kgf/cm²)								105.47 or more.

Note: # Modulus of Rupture Specification Limit (kgf/cm²) - 105.47 or more.
Note: # Since the customer did not provide the stone texture direction, the modulus of rupture perpendicular and parallel to the texture direction cannot be provided.

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TAF
Civil Engineering Laboratory 1134

試 驗 報 告

報 告 編 號 ：HB-23-10051
C-23-43133
頁　　數： 3　OF　3
報告發行日期：113 年 01 月 12 日

試 驗 結 果：

試驗項目	試驗方法	試樣編號	長度 (cm)	寬度 (cm)	厚度 (cm)	試驗前重量(g)	試驗後重量(g)	試驗結果	
								腳踏磨損抗力	腳踏磨損抗力平均值
腳踏磨損抗力	CNS 11320 :2000	1	5.052	5.068	2.016	144.73	143.94	38	38
		2	5.044	5.062	2.048	146.37	145.64	41	
		3	5.062	5.058	2.028	143.41	142.58	36	
#腳踏磨損抗力規範值								25 以上	

註：1. 本試驗之磨料(60 號氧化鋁砂 Norton Treatment 138S)已經停產，本實驗室採用 2A#60 棕色氧化鋁磨料(千秉研磨材料股份有限公司)。
2. 腳踏磨損抗力試驗進行時之溫度為 22.0℃，相對濕度 49%。
3. 規範值依 CNS 14448:2000 花崗石石材之規定。
4. 本試驗報告之試驗地點於新北市五股區(新北產業園區)五權路 55 號。
5. 樣品描述：石材。

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MATERIAL ENGINEERING LABORATORY - TAIPEI

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Civil Engineering Laboratory 1134

TEST REPORT

Report No. : HB-23-10051
C-23-43133
Page : 3 OF 3
Report Date : 113th Year 01 Month 12 Day

TEST RESULTS:

Test Item	Test Method	Specimen No.	Length (cm)	Width (cm)	Thickness (cm)	Weight Before Test (g)	Weight After Test (g)	Test Results	
								Abrasion Resistance	Abrasion Resistance
Sample No.	CNS 11330 :2000	1	5.052	5.068	2.016	144.73	143.94	38	38
		2	5.044	5.062	2.048	146.37	145.64	41	
		3	5.062	5.058	2.028	143.41	142.58	36	
Abrasion Resistance Results								25 or more	

Notes: 1. The abrasive for this test (609 Alumina Oxide Norton Treatment 1385) is discontinued, this laboratory adopts 2A#60 Brown Pased Alumina abrasive (provided by Chien Cheng Abrasive Co., Ltd.).
2. The temperature and relative humidity during the abrasion resistance test were 22.0°C and 49%, respectively.
3. The specifications are in accordance with CNS 14448:2000 for "Granite and Other Building Stones".
4. The location where this test report was generated: No. 55, Wuquan Rd., Wuku Dist., New Taipei City.
5. Sample Description: Stone Material.

This report is provided for the purpose of specification requirements, the specifications are for reference only, the confirmation of compliance is subject to the actual requirements of the entrusting party.

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