

Hilti HRD-UGT Submission Folder

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and Approval Form** 2 - 3

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Customer Hotline

Hong Kong 8228 8118

Macau (Toll free) 00800- 8228 8118

SAMPLE SUBMISSION AND APPROVAL FORM

Contract Title: _____ _____ Contract No: _____ File Reference: _____	Ref. No.: _____ Date: _____ Ref. No. of Previous Submission: _____ (1) _____ (2) _____
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DETAILS OF SUBMISSION

To: Contract Manager's Representative Attention: _____

From: _____

The enclosed sample and catalogue* / certificate of origin* / technical data* / test report* / job reference* as described below have been checked for compliance with the Specifications and Drawings, and are submitted for approval.

1. General Information

- a. Material Description HRD-UGT door frame anchor

- b. Location: _____

- c. Specification Ref. Page: _____ Item: _____

- d. Drawing Ref. No. _____

- e. B.Q. Ref.No.: _____

- f. Anticipated date of approval: _____

2. Technical Information

The submitted sample has been checked against the specification and drawings as listed below:-

Specification Requirements	Submitted Sample (State details against each item)
a. Brand Not specified	Hilti
b. Country of Origin Not specified	Germany
c. Manufacturer's Name & Address Not specified	Hilti Corporation, FL-9494 Principality of Liechtenstein
d. Factory's Name & Address(es) Not specified	Hilti Kunststofftechnik GmbH, martin-Hilti-Weg 1, De-89278 Nersingen, Germany
e. Supplier (with Applicator, if any) Not specified	Hilti (Hong Kong) Ltd

f. Appearance Not specified	According to the sample submitted
g. Color + Not specified	NIL
h. Specification Not specified	Attached
i. Manufacturer's Catalogue Not specified	Attached
j. Test Report (Original/Certificated True Copy) Not specified	Attached
k. Previous Job Reference Not specified	Attached
l. Supplementary Information Not specified	NIL

For and on behalf of the Contractor

(Quality Control Manager)

CONTRACT MANAGER'S COMMENTS	
To:	
From:	Contract Manager's Representative: _____
On the basis of the sample and information given, the above sample submitted is:	
(1) *	Approved.
(2) *	Not approved because _____
Remarks:	_____ _____ _____
Approval does not alter the requirements of the Contract	
Contract Manager's Representative: _____	
_____ Date: _____	

cc. _____

(* Delete if appropriate)
(+ For glass or vitreous mosaic tiles, the contractor is required to confirm the colour range(s) of the submitted sample, i.e. a) light and or medium; or b) dark)

HRD-U door frame anchor

Base material

- Concrete
- Brick, sand-lime brick, hollow brick and gas concrete

Use

- For fastening door and window frames
- Cladding / facade insulation material installation
- For primarily to secure cladding, timber and plastic frames to concrete, solid and hollow brick

Material

- High-quality polyamide PA 6 (cadmium free)
- Screw made of galvanized steel of grade 6.8 or A4-70 stainless steel

Approvals



Benefits

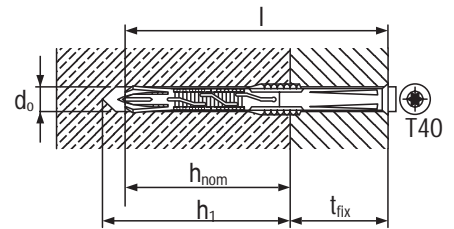
- Suitable for all kinds of base material
- High holding power, thus fewer fastenings, less installation work and lower cost
- Higher bending strength

Technical data

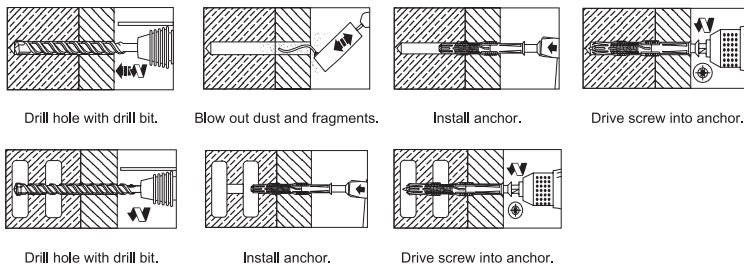
Recommended load (kN), safety factor(γ)=5

Model	Size	10x80	10x100	10x120	10x140	10x160	10x180
		/ 10	/ 10	/ 50	/ 70	/ 90	/ 110
HRD-U at concrete 30 N/mm ²	Tensile Load, N _{rec}	1.80	1.80	1.80	1.80	1.80	1.80
	Shear Load, V _{rec}	2.00	2.00	2.00	2.00	2.00	2.00
HRD-U at aerated concrete PB-4 ²⁾	Tensile Load, N _{rec}	0.60	0.60	0.60	0.60	0.60	0.60
	Shear Load, V _{rec}	0.80	0.80	0.80	0.80	0.80	0.80

Remarks:
 1) All the data applies to no edge distance, spacing and other influences
 2) Holes must be produced by rotary drilling only
 3) For detail design method, please refer to Fastening Technology Manual



Installation procedures



HRD-U programme

Drill bit nom. dia., d ₀ (mm)	Min. hole depth, h ₁ (mm)	Min. anchorage depth, h _{nom}	Anchor length, l (mm)	Tighten. torque (Solid / Hollow brick) T _{inst} (Nm)	Max fasten. thk., t _{fix} (mm)	Package (pcs)	Order designation	Item no
10	80	70	80	18 / 5	10	50	HRD-UGT 10x80/10	257272
10	80	70	100	18 / 5	30	50	HRD-UGT 10x100/30	257273
10	80	70	120	18 / 5	50	50	HRD-UGT 10x120/50	257274
10	80	70	140	18 / 5	70	50	HRD-UGT 10x140/70	257275
10	80	70	160	18 / 5	90	50	HRD-UGT 10x160/90	257283 ★
10	80	70	180	18 / 5	110	50	HRD-UGT 10x180/110	257276 ★
10	80	70	200	18 / 5	130	50	HRD-UGT 10x200/130	257284 ★
10	80	70	230	18 / 5	160	50	HRD-UGT 10x230/160	257285 ★
10	80	70	250	18 / 5	180	50	HRD-UGT 10x250/180	332257 ★
10	80	70	290	18 / 5	220	50	HRD-UGT 10x290/220	371416 ★
10	80	70	330	18 / 5	260	50	HRD-UGT 10x330/260	371417 ★



Drill bit nom. dia., d ₀ (mm)	Min. hole depth, h ₁ (mm)	Min. anchorage depth, f _{l, nom}	Anchor length, l (mm)	Tighten. torque (Solid / Hollow brick) T _{test} (Nm)	Max fasten. thk., t _{tx} (mm)	Package (pcs)	Order designation	Item no
HRD-URT: T40 head screw, A4 stainless steel								
10	80	70	80	18 / 5	10	50	HRD-URT 10x80/10	257289 ★
10	80	70	120	18 / 5	50	50	HRD-URT 10x120/50	257290 ★



HRD-UGS: Hexagon head screw, steel 6.8 grade galvanized to 5µm								
10	80	70	80	18 / 5	10	50	HRD-UGS 10x80/10	257277 ★
10	80	70	100	18 / 5	30	50	HRD-UGS 10x100/30	257278 ★
10	80	70	120	18 / 5	50	50	HRD-UGS 10x120/50	257279 ★
10	80	70	140	18 / 5	70	50	HRD-UGS 10x140/70	257280 ★
10	80	70	160	18 / 5	90	50	HRD-UGS 10x160/90	257286 ★
10	80	70	180	18 / 5	110	50	HRD-UGS 10x180/110	257281 ★
10	80	70	200	18 / 5	130	50	HRD-UGS 10x200/130	257287 ★
10	80	70	230	18 / 5	160	50	HRD-UGS 10x230/160	257288 ★
10	80	70	250	18 / 5	180	50	HRD-UGS 10x250/180	288402 ★
10	80	70	290	18 / 5	220	50	HRD-UGS 10x290/220	371414 ★
10	80	70	330	18 / 5	260	50	HRD-UGS 10x330/260	371415 ★

HRD-URS: Hexagon head screw, A4 stainless steel								
10	80	70	120	18 / 5	120	50	HRD-URS 10x120/50	257293 ★
10	80	70	140	18 / 5	140	50	HRD-URS 10x140/70	257294 ★

HRD-U door frame anchor

Features:	- base material: concrete, solid brick, hollow brick, gas (aerated) concrete - ready-to-use anchor (anchor body and matching screw) - tap-in stops eliminate premature expansion - low tightening torque
Material:	- PA 6 / 6.6 Polyamide, contains no heavy metals - contains no cadmium or lead - contains no halogens or silicones - in-place temperature range: from -40 °C to +80 °C - temperature when setting: from -10 °C to +40 °C
Screw:	
Galvanised:	- with hexagon, hex + integrated washer and countersunk head - 5 microns, yellow chromated, 6.8, ISO 898 T1
Hot-dip galvanised:	- with hexagon and hex + integrated washer, 45 microns, grey
Stainless steel:	- with hexagon, countersunk head, A4



B

Basic loading data (for a single anchor): HRD-UGT

All data on this page applies to

- concrete, $f_{cc} \geq 20 \text{ N/mm}^2$
- different kinds of base materials
- min. component thickness (See table below.)

Characteristic resistance, R_k [kN]:

Base material	Anchor size	HRD-UGT
Non-cracked concrete, $f_{ck,cube} = 20 \text{ N/mm}^2$	N_{Rk}	9.0
	V_{Rk}	10.0
Solid brick, Mz 12	N_{Rk}	4.0
	V_{Rk}	5.0
Solid brick, Mz 20	N_{Rk}	6.0
	V_{Rk}	6.0
Sand-lime solid brick, KS 12 – 1.6 – 2DF	N_{Rk}	7.5
	V_{Rk}	6.0
Hollow sand-lime brick, KSL 6 (U 10) KSL 12 (U14)	N_{Rk}	4.0
	V_{Rk}	5.0
Hollow lightweight concrete block, (D) KHbl 1-4	N_{Rk}	1.25
	V_{Rk}	1.25
Solid lightweight concrete block, (D) V 2	N_{Rk}	1.25
	V_{Rk}	1.25
Aerated concrete ¹⁾ , PB 2	N_{Rk}	1.5
	V_{Rk}	2.5
Aerated concrete, PB 4	N_{Rk}	3.0
	V_{Rk}	4.0
Aerated concrete, PB 6	N_{Rk}	4.0
	V_{Rk}	5.0
Min. component thickness (cm)		
Concrete		12.0
Other base materials		11.5

HRD-U door frame anchor

Design resistance, R_d [kN]:

Base material	Anchor size	HRD-UGT
Non-cracked concrete, $f_{cc} = 20 \text{ N/mm}^2$	N_{Rd}	2.5
	V_{Rd}	2.8
Solid brick, Mz 12	N_{Rd}	1.1
	V_{Rd}	1.4
Solid brick, Mz 20	N_{Rd}	1.7
	V_{Rd}	1.7
Sand-lime solid brick, KS12 – 1.6 – 2DF	N_{Rd}	2.1
	V_{Rd}	1.7
Hollow sand-lime brick, KSL 6 (U 10) KSL 12 (U14)	N_{Rd}	1.1
	V_{Rd}	1.4
Hollow lightweight concrete block, (D) KHbl 1-4	N_{Rd}	0.35
	V_{Rd}	0.35
Solid lightweight concrete block, (D) V 2	N_{Rd}	0.35
	V_{Rd}	0.35
Aerated concrete ¹⁾ , PB 2	N_{Rd}	0.4
	V_{Rd}	0.7
Aerated concrete, PB 4	N_{Rd}	0.8
	V_{Rd}	1.1
Aerated concrete, PB 6	N_{Rd}	1.1
	V_{Rd}	1.4

¹⁾ Holes must be produced by rotary drilling only. At temperatures above 40 °C, the recommended figure should be reduced if there is a sustained tensile load.

Recommended load, L_{rec} [kN]:

Anchor size	HRD-UGT
N_{Rec}	1.8
V_{Rec}	2.0
N_{Rec}	0.8
V_{Rec}	1.0
N_{Rec}	1.2
V_{Rec}	1.2
N_{Rec}	1.5
V_{Rec}	1.2
N_{Rec}	0.8
V_{Rec}	1.0
N_{Rec}	0.25
V_{Rec}	0.25
N_{Rec}	0.25
V_{Rec}	0.25
N_{Rec}	0.3
V_{Rec}	0.5
N_{Rec}	0.6
V_{Rec}	0.8
N_{Rec}	0.8
V_{Rec}	1.0

Recommended bending moments, M_{rec} [Nm]:

Anchor	HRD-UGT	
	$N_{Rec} = 0 \text{ kN}$	$N_{Rec} = 1.6 \text{ kN}$
Galvanised screw	10.1	8.8
Stainless-steel screw	9.5	8.2

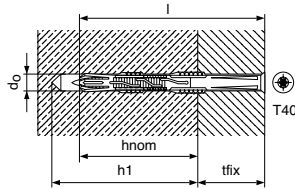
The permissible bending moments for the screws under loads between the two limits given in the table may be interpolated.

Anchor spacing, s_{min} , and edge distance, c_{min} (cm):

Base material	HRD-UGT	
	Spacing	Edge
Non-cracked concrete, $f_{cc} = 20 \text{ N/mm}^2$	10	10
Solid brick, Mz 12	10	10
Sand-lime solid brick, KS 12 – 1.6 – 2DF	10	10
Hollow sand-lime brick, KSL 6 (U 10) KSL 12 (U14)	25	10
Hollow lightweight concrete block, (D) KHbl 1-4	25	10
Solid lightweight concrete block, (D) V 2	25	10
Aerated concrete, PB 2	10	10
Aerated concrete, PB 4	15	15
Aerated concrete, PB 6	15	15

Setting details

HRD-UGT



B

Setting details	Anchor size							
	x80/10	x100/30	x120/50	x140/70	x160/90	x180/110	x200/130	x230/160
d_0 [mm] Drill bit and anchor diameter	10							
h_1 [mm] Min. hole depth	80							
h_{nom} [mm] Min. anchorage depth	70							
t_{fix} [mm] Max. fixture thickness	10	30	50	70	90	110	130	160
l [mm] Anchor length	80	100	120	140	160	180	200	230
T_{inst} [Nm] Max. tightening torque ¹⁾	18 / 5							
Drill bit size	TE-C3X-10/17	TE-C3X-10/22			TE-C3X-10/27			TE-C3X-10/47

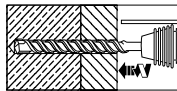
¹⁾ 1st value: solid base material / 2nd value: hollow base material

Anchor holes in masonry or gas (aerated) concrete may only be drilled with a rotary action (without hammering). Holes in the part to be fastened should be max. 0.5 mm larger than the anchor diameter.

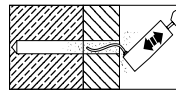
Installation equipment

Rotary hammer (TE1, TE 2, TE5, TE6, TE6A, TE15, TE15-C, TE18-M or TE35), a drill bit (See table above.), a hammer and a screwdriver (SF 100, SF 120, SD45 or SU25).

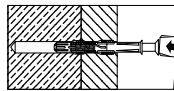
Setting operations



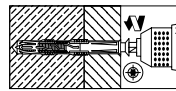
Drill hole with drill bit.



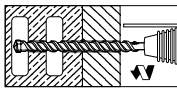
Blow out dust and fragments.



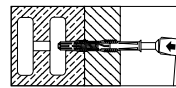
Install anchor.



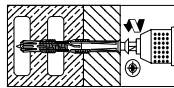
Drive screw into anchor.



Drill hole with drill bit.



Install anchor.



Drive screw into anchor.

SETTING OPERATION

Hilti HRD-UGT Door Frame Anchor

Versions : HRD-UGT / HRD-URT / HRD-UGS / HRD-URS

Accessories : NIL

Reference : Product Information / Fastening Technology Manual



Setting Operation:	
1. Drill the hole with drill bit	
2. Blow out dust and fragments	
3. Install anchor	
4. Drive screw into anchor	

Drill the hole in gypsum fibreboard, chipboard and drywall panel without hammering action or use the cordless screwdriver with a twist drill.

Hilti (Hong Kong) Limited
17/F, Tower 6,
China Hong Kong City,
33 Canton Road,
Tsimshatsui,
Kowloon.

4 June, 1997

Attention: Mr. Denny Wu

Dear Sir,

Procedures for building materials submission

I refer to your letter dated 19 May, 1997 concerning the above.

2. Please be advised that there is no provision under the Buildings Ordinance for the Building Authority to approve any proprietary building products. Under the Buildings Ordinance, authorized persons and/or registered structural engineers are required to supervise building works including the selection and installation of proprietary building products and to certify compliance with the Buildings Ordinance upon completion of works. They are therefore responsible for ensuring the health and structural safety requirements, inter alia, of these building products in the building projects which they have been appointed by the developer to co-ordinate and supervise. It is also their responsibility to ensure these products have been installed in accordance with the manufacturers' specifications and complied with the Buildings Ordinance and Regulations.

3. In establishing the acceptability of the proprietary products in building works, reference may be made to the performance standards laid down in Building (Construction) Regulations 1990 and the current Practice Note for Authorized Persons and Registered Structural Engineers 140 in which performance requirements for compliance are given. Reliance may also be placed on the test/assessment report prepared by a recognized laboratory or an equivalent establishment.

4. Before the proprietary products are installed in a building project, the authorized person and/or registered structural engineer appointed for the project should be approached by the manufacturers or their agents for advice and guidance. **Prior approval/acceptance from the Buildings Department is not required.**

5. Generally, all relevant information supporting the use of the proprietary products in building works under the Buildings Ordinance should be submitted associated with the prescribed plans for approval on project basis.

/ Notwithstanding....

- 2 -

6. Notwithstanding the above, the proprietary building products to which 'No objection' letters have been given are still recognized as accepted constructional materials to be used in building works under the Buildings Ordinance provided that all conditions specified in the letters are satisfied. You are informed that the procedures currently adopted by the Building Authority for processing statutory approval of plans which involve the use of these proprietary building products remain unchanged.

7. It is a fact that the 'No objection' letter giving general acceptance to a proprietary building product is based on the technical information submitted to this Department at the time of its application. Should there be any significant modification to these technical information, the product will certainly be considered as 'new' product. The acceptability of such proprietary product in building works should be evaluated by the authorized person and/or registered structural engineer appointed for the project as mentioned above.

8. Should you have any further queries to the above, please feel free to contact the undersigned or Mr. T.C. Kan of this office at phone no. 2626 1583.

Yours faithfully,



(K.S. Chang)

Technical Secretary/Structural
for Building Authority

tck/

Attn. : To whom it may concern

Date : 12 January 2009

Ref. : LE/332/TC/09

Subject : Hilti HRD-UGT Door Frame Anchor

Dear Sirs / Madams,

Enclosed please find the information of Hilti HRD-UGT Door Frame Anchor.

Brand Name : Hilti
Model Name : Hilti HRD-UGT
Manufacturer : Hilti Corporation
Address of Manufacturer : FL-9494, Principality of Liechtenstein.
Supplier : Hilti (Hong Kong) Ltd
Address of Supplier : 17/F, Tower 6, China Hong Kong City, 33 Canton Road,
Tsim Sha Tsui, Kowloon, Hong Kong.
Country of Origin : Germany
Name of Factory : Hilti Kunststofftechnik GmbH
Address of Factory : Martin-Hilti-Weg 1, De-89278 Nersingen, Germany.

Should you have further questions, please do not hesitate to contact our Technical Representatives or Customer Service Hotline at 8228-8118.

Yours sincerely,
Hilti (Hong Kong) Ltd.



Thomas Choy
Marketing Manager

Job/Application Reference

20-Feb-10



Ref No	Date	Project	Contractor	Consulting Engineer	Product	Application
39111	09-09	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X140/70	door frame fixing
39110	09-09	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X120/50	door frame fixing
38886	09-09	One Central Macau	SAN YIU CHEONG DECORATION		Frame anchor HRD-UGT 10X120/50	decoration fixing
39112	09-09	One Central Macau	FAI WANG ENGENHARIA LDA		Frame anchor HRD-UGT 10X120/50	door frame fixing
38551	07-09	One Central Macau	HAPYING (MACAO) ENG CO LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
38368	07-09	PTM Projects - Shui On	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
38367	07-09	PTM Projects - Shui On	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
38140	06-09	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X140/70	door frame fixing
37880	05-09	Airport	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
37895	05-09	I-Square Development, Nathan Road	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
37581	04-09	One Central Macau	URC - PROJECTS MANAGEMENT (MACAU),		Frame anchor HRD-UGT 10X80/10	door frame fixing
37228	03-09	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X80/10	door frame fixing
37241	03-09	City of Dreams Resort	ENGENHARIA HUNG YIP		Frame anchor HRD-UGT 10X80/10	door frame fixing
37378	03-09	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X80/10	door frame fixing
37006	02-09	MGM Grand Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X140/70	door frame fixing
36841	02-09	MGM Grand Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X100/30	door frame fixing
37028	02-09	One Central Macau	HAPYING (MACAO) ENG CO LTD		Frame anchor HRD-UGT 10X140/70	door frame fixing
36842	02-09	MGM Grand Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X140/70	door frame fixing

17/F, Tower 6, China Hong Kong City, 33 Canton Road, Tsimshatsui, Kowloon, Hong Kong.
Hotline : 8228 8118 Fax : 29541751

1

Job/Application Reference

20-Feb-10



Ref No	Date	Project	Contractor	Consulting Engineer	Product	Application
36843	02-09	MGM Grand Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X80/10	door frame fixing
37005	02-09	MGM Grand Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X100/30	door frame fixing
37007	02-09	MGM Grand Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X80/10	door frame fixing
37011	02-09	One Central Macau	ACTION (MACAU) CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
37012	02-09	One Central Macau	ACTION (MACAU) CO LTD		Frame anchor HRD-UGT 10X140/70	door frame fixing
37013	02-09	One Central Macau	ACTION (MACAU) CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
37027	02-09	One Central Macau	HAPYING (MACAO) ENG CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
37029	02-09	One Central Macau	HAPYING (MACAO) ENG CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
37017	02-09	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
36573	01-09	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X100/30	door frame fixing
36675	01-09	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X100/30	door frame fixing
36633	01-09	Airport	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing

17/F, Tower 6, China Hong Kong City, 33 Canton Road, Tsimshatsui, Kowloon, Hong Kong.
Hotline : 8228 8118 Fax : 29541751

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Job/Application Reference

20-Jul-09



Ref No	Date	Project	Contractor	Consulting Engineer	Product	Application
33834	12-08	City of Dreams Resort	CIA. DECORACO IMP EXP SAN KIN SENG		Frame anchor HRD-UGT 10X100/30	door frame fixing
33166	12-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X160/90	door frame fixing
33588	12-08	PTM Projects - Sun Hung Kai	CPD_HK		Frame anchor HRD-UGT 10X120/50	door frame fixing
33895	12-08	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X160/90	door frame fixing
33772	12-08	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
33835	12-08	City of Dreams Resort	CIA. DECORACO IMP EXP SAN KIN SENG		Frame anchor HRD-UGT 10X120/50	door frame fixing
33774	12-08	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
33773	12-08	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
33488	12-08	PTM Projects - Hip Hing	HOP HING CONST & ENG CO		Frame anchor HRD-UGT 10X100/30	hanger fixing
32765	11-08	City of Dreams Resort	CIA. DECORACO IMP EXP SAN KIN SENG		Frame anchor HRD-UGT 10X100/30	door frame fixing
32832	11-08	The Venetian Casino Resort (Parcel 1)	DAVID DECORATION (MACAU) LIMITED		Frame anchor HRD-UGT 10X140/70	door frame fixing
32766	11-08	City of Dreams Resort	CIA. DECORACO IMP EXP SAN KIN SENG		Frame anchor HRD-UGT 10X120/50	door frame fixing
31637	10-08	One Central Macau	TAI HOO CONTRACTING CO		Frame anchor HRD-UGT 10X120/50	door frame fixing
30870	10-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
31658	10-08	Four Seasons Hotel, Macau (Parcel 2)	NGAI TO CONSTRUCTION LIMITED		Frame anchor HRD-UGT 10X100/30	door frame fixing
31581	10-08	City of Dreams Resort	CIA. DECORACO IMP EXP SAN KIN SENG		Frame anchor HRD-UGT 10X100/30	door frame fixing

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Ref No	Date	Project	Contractor	Consulting Engineer	Product	Application
30871	10-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
29735	09-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
30414	09-08	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
29734	09-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
30228	09-08	PTM Projects - Sun Hung Kai	CPD_HK		Frame anchor HRD-UGT 10X120/50	door frame fixing
28706	08-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X160/90	door frame fixing
28708	08-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
28707	08-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X180/110	door frame fixing
29558	08-08	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
28705	08-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
29565	08-08	One Central Macau	MASTER POINT ENGINEERING LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
29312	08-08	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
29311	08-08	PTM Projects - Gammon	VIC-FORM CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
28544	07-08	Hotel Grand Lisboa Development	YEE TAT ENGINEERING LTD		Frame anchor HRD-UGT 10X140/70	door frame fixing
27610	07-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
28366	07-08	Hotel Grand Lisboa Development	TOPLUS GROUP		Frame anchor HRD-UGT 10X100/30	machine fixing

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Job/Application Reference

20-Jul-09



Ref No	Date	Project	Contractor	Consulting Engineer	Product	Application
27611	07-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
28543	07-08	Hotel Grand Lisboa Development	YEE TAT ENGINEERING LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
28554	07-08	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
26626	06-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
26628	06-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
26627	06-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
27455	06-08	Four Seasons Hotel, Macau (Parcel 2)	SUN MING SANG ENGINEERING LIMITED		Frame anchor HRD-UGT 10X80/10	door frame fixing
26817	06-08	Airport	THE JARDINE ENG CORP LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
26816	06-08	Airport	THE JARDINE ENG CORP LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
27433	06-08	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
27431	06-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X160/90	door frame fixing
27430	06-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X140/70	door frame fixing
27429	06-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X120/50	door frame fixing
26462	05-08	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
26456	05-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X120/50	door frame fixing

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Ref No	Date	Project	Contractor	Consulting Engineer	Product	Application
26459	05-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X180/110	door frame fixing
26460	05-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X230/160	door frame fixing
25796	05-08	Airport	DRAGAGES HONG KONG LIMITED		Frame anchor HRD-UGT 10X80/10	door frame fixing
25732	05-08	Airport	THE JARDINE ENG CORP LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
25554	05-08	Lohas Park Phase 1 & Phase 2	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
26458	05-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X160/90	door frame fixing
26326	05-08	Four Seasons Hotel, Macau (Parcel 2)	VAFORD CONTRACTING CO LTD		Frame anchor HRD-UGT 10X80/10	fixing on gypsum panel
26457	05-08	One Central Macau	CHUN KEI CONSTRUCTION (MACAO) CO		Frame anchor HRD-UGT 10X140/70	door frame fixing
25733	05-08	Airport	THE JARDINE ENG CORP LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
23585	04-08	Airport	THE JARDINE ENG CORP LTD		Frame anchor HRD-UGT 10X80/10	building services fixing
23624	04-08	Airport	DRAGAGES HONG KONG LIMITED		Frame anchor HRD-UGT 10X80/10	door frame fixing
24110	04-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X100/30	fixing on gypsum panel
24111	04-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X120/50	fixing on gypsum panel
24112	04-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X80/10	fixing on gypsum panel
23894	04-08	PTM Projects - Sun Hung Kai	CPD_HK		Frame anchor HRD-UGT 10X140/70	door frame fixing
24270	04-08	One Central Macau	MASTER POINT ENGINEERING LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing

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<u>Ref No</u>	<u>Date</u>	<u>Project</u>	<u>Contractor</u>	<u>Consulting Engineer</u>	<u>Product</u>	<u>Application</u>
23893	04-08	PTM Projects - Sun Hung Kai	CPD_HK		Frame anchor HRD-UGT 10X120/50	door frame fixing
23895	04-08	PTM Projects - Sun Hung Kai	CPD_HK		Frame anchor HRD-UGT 10X80/10	door frame fixing
23892	04-08	PTM Projects - Sun Hung Kai	CPD_HK		Frame anchor HRD-UGT 10X100/30	door frame fixing
24264	04-08	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
22918	03-08	Airport	WING DIK ENGINEERING CO. LTD.		Frame anchor HRD-UGT 10X80/10	door frame fixing
22554	02-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X100/30	door frame fixing
22556	02-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X140/70	door frame fixing
22555	02-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X120/50	door frame fixing
22594	02-08	One Central Macau	COMPANHIA DE MATERIAIS DE		Frame anchor HRD-UGT 10X120/50	door frame fixing
22458	02-08	Airport Skypier	WING DIK ENGINEERING CO. LTD.	OAP / Mott Connell	Frame anchor HRD-UGT 10X80/10	door frame fixing
22557	02-08	MGM Grand Macau	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X80/10	door frame fixing
22202	01-08	City of Dreams Resort	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X120/50	door frame fixing
22243	01-08	Four Seasons Hotel, Macau (Parcel 2)	YEARFULL CONTRACTING (MACAU) LTD		Frame anchor HRD-UGT 10X120/50	decoration fixing
22203	01-08	City of Dreams Resort	KA HENG KONG CHENG		Frame anchor HRD-UGT 10X80/10	door frame fixing
21998	01-08	Union Square Phase 7	SANFIELD BLDG CONTRACTOR	OAP / JRP	Frame anchor HRD-UGT 10X80/10	door frame fixing
21966	01-08	New Yaohan Macau	COMPANHIA DE ENGENHARIA ALISON	Maunsell / PBA	Frame anchor HRD-UGT 10X100/30	electrical services fixing

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Job/Application Reference

08-Dec-08



<u>Ref No</u>	<u>Date</u>	<u>Project</u>	<u>Contractor</u>	<u>Consulting Engineer</u>	<u>Product</u>	<u>Application</u>
21032	12-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X120/50	door frame fixing
21033	12-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X180/110	door frame fixing
20464	12-07	Dream City Phase 2	YEE HONG KEE WOOD WORKS CO LTD	Maunsell / Meinhardt	Frame anchor HRD-UGT 10X120/50	door frame fixing
20465	12-07	Dream City Phase 2	YEE HONG KEE WOOD WORKS CO LTD	Maunsell / Meinhardt	Frame anchor HRD-UGT 10X80/10	door frame fixing
20463	12-07	Dream City Phase 2	YEE HONG KEE WOOD WORKS CO LTD	Maunsell / Meinhardt	Frame anchor HRD-UGT 10X100/30	door frame fixing
21016	12-07	MGM Grand Macau	GOLDENWALL ENGINEERING LTD	Siu Yin Wai / JRP / Hyder	Frame anchor HRD-UGT 10X120/50	glass rail fixing
21158	12-07	MGM Grand Macau	GOLDENWALL ENGINEERING LTD	Siu Yin Wai / JRP / Hyder	Frame anchor HRD-UGT 10X120/50	door frame fixing
18985	11-07	Hotel Grand Lisboa, Macau	SUNLINE (MACAU) CO LTD	Maunsell / PBA	Frame anchor HRD-UGT 10X100/30	decoration fixing
17822	10-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X180/110	door frame fixing
17143	10-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-UGT 10X80/10	door frame fixing
17142	10-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-UGT 10X100/30	door frame fixing
17820	10-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X120/50	door frame fixing
17821	10-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X140/70	door frame fixing
16673	09-07	Union Square Phase 6	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X140/70	door frame fixing
16671	09-07	Union Square Phase 6	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X100/30	door frame fixing
16672	09-07	Union Square Phase 6	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X120/50	door frame fixing
16681	09-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-UGT 10X140/70	door frame fixing

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<u>Ref No</u>	<u>Date</u>	<u>Project</u>	<u>Contractor</u>	<u>Consulting Engineer</u>	<u>Product</u>	<u>Application</u>
16682	09-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-JGT 10X180/110	door frame fixing
16680	09-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-JGT 10X120/50	door frame fixing
15409	08-07	Hotel Grand Lisboa, Macau	SUNDART ENGINEERING SERVICES	Maunsell / PBA	Frame anchor HRD-JGT 10X140/70	door frame fixing
14617	07-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-JGT 10X120/50	door frame fixing
14645	07-07	HSBC Data Center	TAIGO LTD	Meinhardt	Frame anchor HRD-JGT 10X80/10	door frame fixing
14619	07-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-JGT 10X160/90	door frame fixing
14586	07-07	SkyPlaza	LUEN HING ENGINEERING CO	OAP / Mott Connell	Frame anchor HRD-JGT 10X100/30	door frame fixing
14616	07-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-JGT 10X100/30	door frame fixing
14618	07-07	Union Square Phase 7	HO YIK ENG CO	OAP / JRP	Frame anchor HRD-JGT 10X140/70	door frame fixing
13413	06-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-JGT 10X180/110	door frame fixing
13414	06-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-JGT 10X80/10	door frame fixing
13412	06-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-JGT 10X100/30	door frame fixing
12961	05-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-JGT 10X140/70	door frame fixing
12962	05-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-JGT 10X80/10	door frame fixing
12964	05-07	Dream City Phase 2	YEE HONG KEE WOOD WORKS CO LTD	Maunsell / Meinhardt	Frame anchor HRD-JGT 10X160/90	door frame fixing
12960	05-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-JGT 10X100/30	door frame fixing

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<u>Ref No</u>	<u>Date</u>	<u>Project</u>	<u>Contractor</u>	<u>Consulting Engineer</u>	<u>Product</u>	<u>Application</u>
11565	04-07	Dream City Phase 1	YEE HONG KEE WOOD WORKS CO LTD	W & O / Mott Connell / PBA	Frame anchor HRD-UGT 10X100/30	door frame fixing
11572	04-07	Tseung Kwun O Movie City	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X120/50	door frame fixing
11571	04-07	Tseung Kwun O Movie City	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X100/30	door frame fixing
11573	04-07	Tseung Kwun O Movie City	YEE HONG KEE WOOD WORKS CO LTD		Frame anchor HRD-UGT 10X80/10	door frame fixing
11042	03-07	Hotel Grand Lisboa, Macau	SUNDART ENGINEERING SERVICES	Maunsell / PBA	Frame anchor HRD-UGT 10X160/90	door frame fixing
10831	03-07	Dream City Phase 2	YEE HONG KEE WOOD WORKS CO LTD	Maunsell / Meinhardt	Frame anchor HRD-UGT 10X80/10	door frame fixing
10735	03-07	Hotel Grand Lisboa, Macau	SUNDART ENGINEERING SERVICES	Maunsell / PBA	Frame anchor HRD-UGT 10X160/90	door frame fixing
9685	01-07	Asia Airfreight Terminal 2	STRESS (FAR EAST) LTD	Maunsell	Frame anchor HRD-UGT 10X120/50	decoration fixing
6733	01-06	Union Square Phase 5	OCEAN AIR-CONDITION ENG CO	OAP / PBA	Frame anchor HRD-UGT 10X80/10	building services fixing