



工程指示 / 要求簡箋(E.I.)

工程指示編號：EI / 7395 / 24

修改版次： -

工程編號： J - 858

工程名稱：將軍澳日出康城 11

以此為準

工程項目： Pull out Test 拉力測試 (幕牆) 拉 M12 天面 Monorail

收件人： Maggie

發件人： Ant Yeung

日期： 04/03/2024

要求提供 / 確認 事項：

- | | | |
|------------------------------------|-------------------------------------|-------------------------------|
| <input type="checkbox"/> 初步鋁料 B.M. | <input type="checkbox"/> 加工拆圖，然後生產 | <input type="checkbox"/> 尺寸表 |
| <input type="checkbox"/> 正式鋁料 B.M. | <input type="checkbox"/> 技術上資料 / 指示 | <input type="checkbox"/> 報價 |
| <input type="checkbox"/> 配件 B.M. | <input type="checkbox"/> 樣辦或貨品說明書 | <input type="checkbox"/> 分判合約 |
- 內容：

★ Monorail 工字電 Block = 判頭安裝 = midi 約驗

Monorail 吊船 = 華光安裝 = 華光自行約驗

Monorail 工字電 Block 拉拉爆，預每座拉 1 次。共 3 次

不是 BD 項目，安全自檢。

拉力 11.7kN

請安排公証行到地盆驗拉爆。

謝謝

請在 2024.03.10 前完成上列要求。

附：

- 原合約工程包 原合約工程加 / 減賬 新工程報價

分發東莞各部門：

- () 生產技術總監 連附件 () 技術部 連附件 () 生產部 連附件 () 機械設計部 連附件
 () 採購部 連附件 () 生產統籌部 連附件 () 小羅 & 清 連附件
 () 質檢部 連附件 () 會計部 連附件 () 報關組 連附件 () 其他 _____ 連附件

分發香港各部門：

- () 行政部 連附件 () 會計部 連附件 () 統籌部 連附件 (✓) 工程部地盤科文 連附件 積哥，祥哥
 (✓) 採購部 連附件 () QS 部 連附件 () 維修部 連附件 () 其他 _____ 連附件

傳遞編號：

HK / 24

發件人簽署：

項目經理簽署：

- SAFE WORKING LOAD = 650 kg
- (** ACTUAL S.W.L. TO BE USED = 650KG X 0.8 = 520KG)
- DYNAMIC FACTOR = 1.25

- DESIGN WIND PRESSURE SHALL BE COMPLIED WITH CODE OF PRACTICE FOR SAFE USE AND OPERATION OF SUSPENDED WORKING PLATFORM.
 - WIND SPEED = 14 m/s
 - GUST WIND = 31 m/s
 - BASIC WIND PRESSURE, q = 0.58 kPa
 - PRESSURE COEFFICIENT, C_p = 2.0
 - THEREFORE, DESIGN WIND PRESSURE, W_L = 1.16 kPa

NOTES FOR PARENT R.C. STRUCTURES
(FOR INFORMATION ONLY)

- ALL STRUCTURAL CONCRETE TO BE GRADE 45/20 WITH A MINIMUM STRENGTH OF 45 MPa AT 28 DAYS.

NOTES FOR ANCHOR BOLT

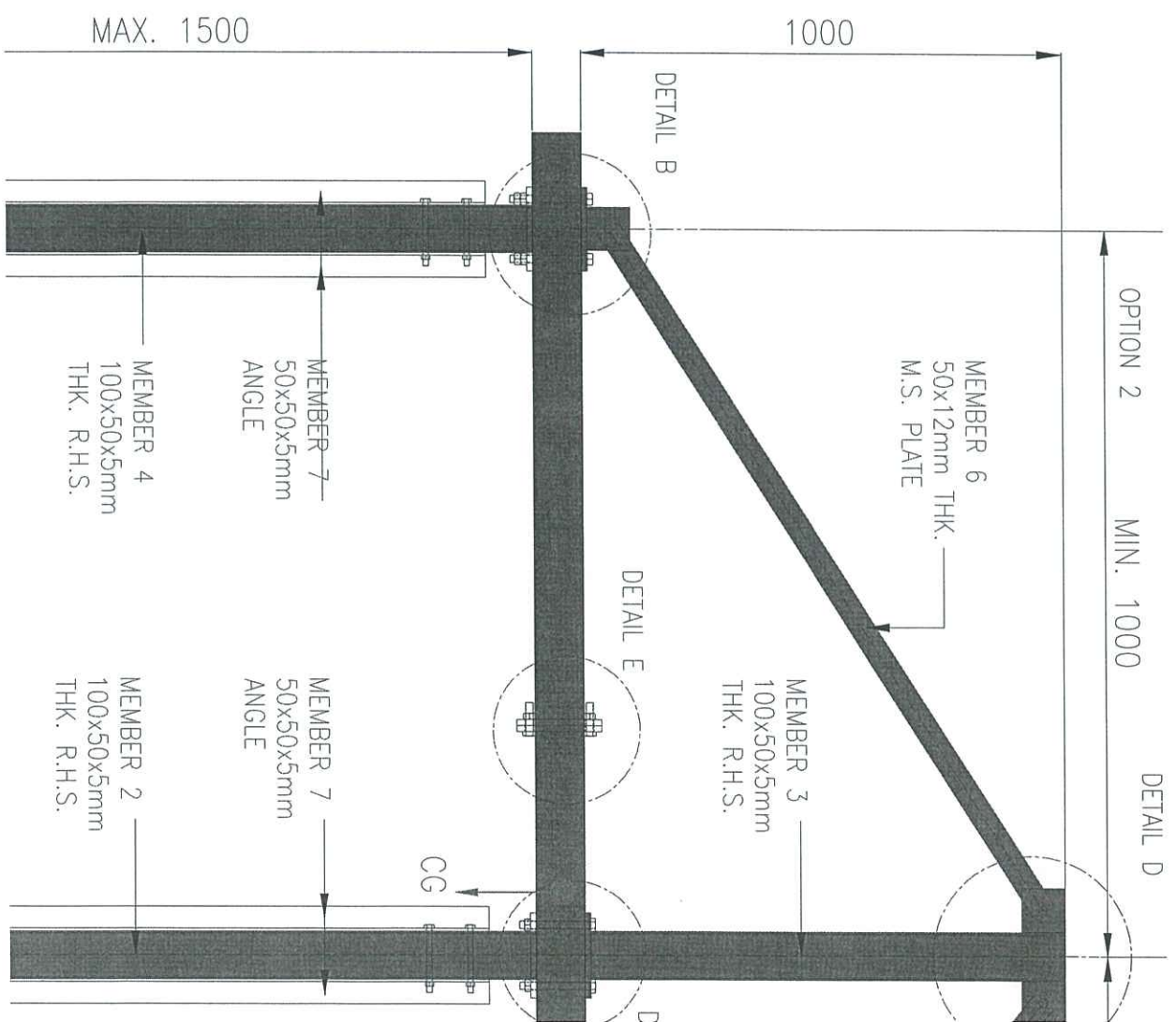
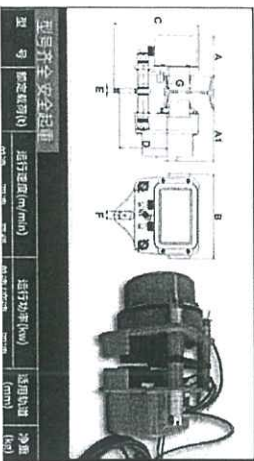
- ALL ANCHOR BOLTS TO BE HILTI HST3 (F.O.S. > 3.0)
(CRACKED CONCRETE DESIGN)

BOLT TYPE	MIN. EMBEDMENT DEPTH (mm)	MIN. SPACING (mm)	MIN. EDGE DISTANCE (mm)	MIN. BASE THICKNESS (mm)	RECOMMENDED TENSION LOAD (kN)	TEST LOAD = 1.5 x TENSION LOAD (kN)
HILTI HST3-M12	50	50	55	100	5.8 x 1.34 = 8.978	8.7 x 1.5 = 13.049

- * INFLUENCING FACTORS OF CONCRETE STRENGTH, $f_{crack} = 1.34$ (FOR GRADE C45)
 - * TEST LOAD = RECOMMENDED LOAD x f_{crack} x 1.5
- INSTALLATION OF THE ANCHOR BOLTS SHALL BE COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS & RECOMMENDATIONS.
 - COVER METER SHOULD BE USED TO LOCATE EXISTING REINFORCEMENT TO ENSURE THAT THEY WILL NOT BE DAMAGED DURING INSTALLATION OF ANCHOR BOLTS.

USE OF TROLLEY

MODEL: DC-A-10



型号	规格	重量	长度	宽度	高度
DC-A-10	100x50x5mm	1.2kg	1500mm	100mm	50mm

NOTES FOR STRUCTURAL STEEL

- ALL WILD STEEL TO BE GRADE Q235 & Q345 IN COMPLIANCE WITH GB 50017.
 - GRADE Q235 FOR ALL HOLLOW SECTIONS, ANGLES AND PLATES ;
 - GRADE Q345 FOR ALL I-BEAMS.
 - DESIGN STRENGTH OF GRADE Q235 = 215 N/mm²
 - DESIGN STRENGTH OF GRADE Q345 = 310 N/mm²
- ALL WELD SHALL BE CARRIED OUT IN ACCORDANCE WITH GB 50017.

DESIGN LOAD

- ALL DEAD LOADS AND IMPOSED LOADS SHALL BE COMPILED WITH CODE OF PRACTICE FOR DEAD AND IMPOSED LOADS 2011.
 - DESIGN LOADS ON RAIL FOR HOISTING THE MATERIAL:-
 - DEAD LOAD
 - THE WEIGHT OF THE MATERIAL WHICH WITH CHAIN = 300 kg
 - = 1.25
 - IMPOSED LOAD
 - SAFE WORKING LOAD = 650 kg
 - (** ACTUAL S.W.L TO BE USED = 650KG X 0.8 = 520KG)
 - DYNAMIC FACTOR = 1.25

- DESIGN WIND PRESSURE SHALL BE COMPILED WITH CODE OF PRACTICE FOR SAFE USE AND OPERATION OF SUSPENDED WORKING PLATFORM.
 - WIND SPEED = 14 m/s
 - GUST WIND = 31 m/s
 - BASIC WIND PRESSURE, q = 0.59 kPa
 - PRESSURE COEFFICIENT, C_p = 2.0
 - THEREFORE, DESIGN WIND PRESSURE, W_L = 1.18 kPa

NOTES FOR PARENT R.C. STRUCTURES
(FOR INFORMATION ONLY)

- ALL STRUCTURAL CONCRETE TO BE GRADE 45/20 WITH A MINIMUM STRENGTH OF 45 MPa AT 28 DAYS.

NOTES FOR ANCHOR BOLT

- ALL ANCHOR BOLTS TO BE M20 HST3 (f_{0.2} > 310) (CRACKED CONCRETE DESIGN)

BOLT TYPE	MIN. EMBEDMENT DEPTH (mm)	MIN. SPACING (mm)	MIN. EDGE DISTANCE (mm)	MIN. BASE THICKNESS (mm)	RECOMMENDED TENSION LOAD (kN)	TEST LOAD = 1.5 x TENSION (kN)
HST3-M12	50	50	55	100	50 x 1.34 = 67	77 x 1.5 = 115

* UNDESIGNED FACTORS OF CONCRETE STRENGTH, (f_{act}) = 1.34 (FOR GRADE C45) 8978 134671

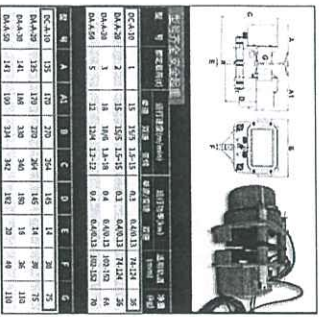
* TEST LOAD = RECOMMENDED LOAD x f_{act} x 1.5

2. INSTALLATION OF THE ANCHOR BOLTS SHALL BE COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS & RECOMMENDATIONS.

3. COVER METERS SHOULD BE USED TO LOCATE EXISTING REINFORCEMENT TO ENSURE THAT THEY WILL NOT BE DAMAGED DURING INSTALLATION OF ANCHOR BOLTS.

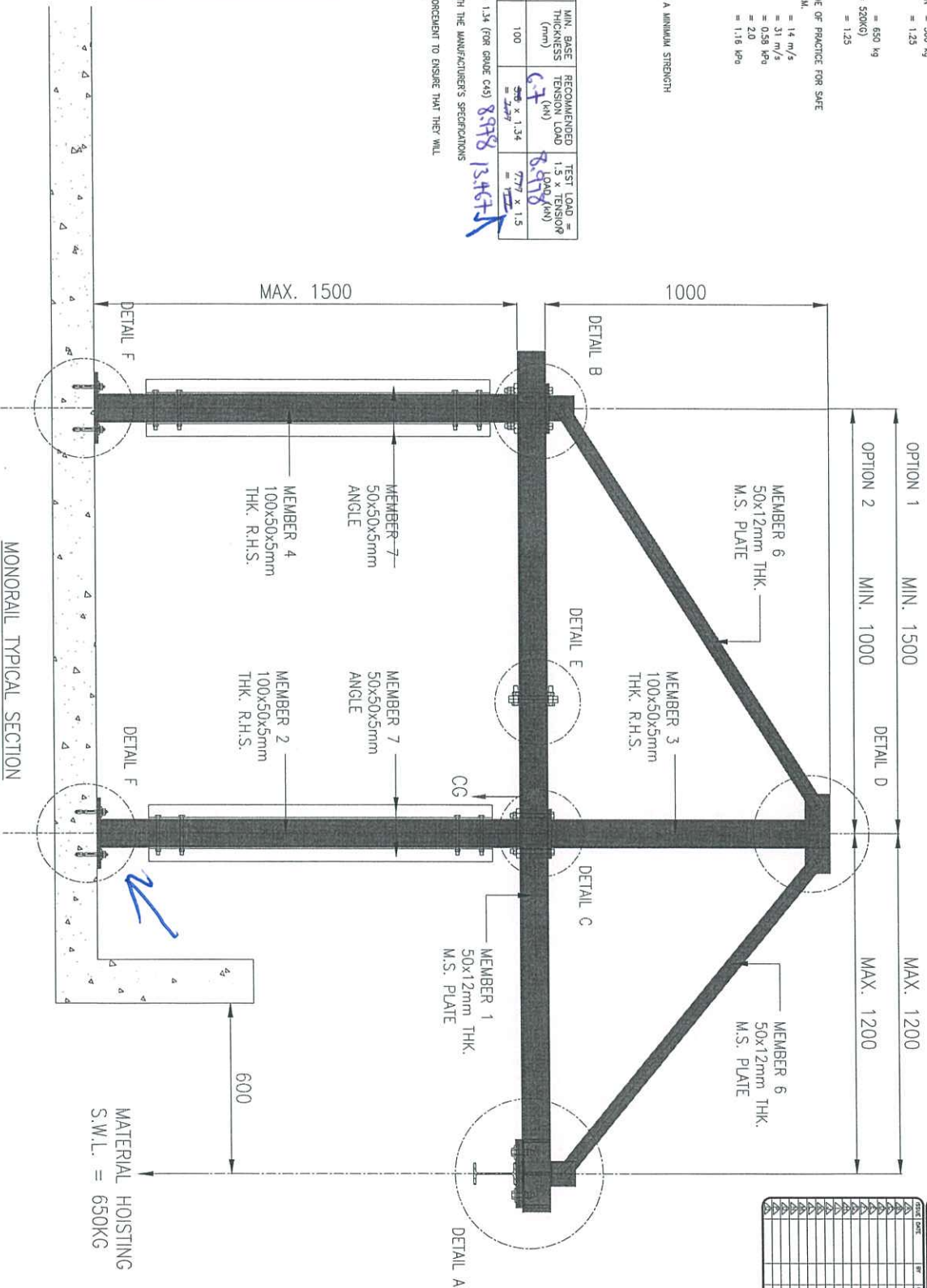
USE OF TROLLEY

MODEL: DC-A-10



MEMBER SCHEDULE

MEMBER MARK	MEMBER SIZE	GRADE
MEMBER 1,2,3,4	100x50x5 R.H.S	Q235
MEMBER 5,6	50x12 FLAT BAR	Q235
MEMBER 7	50x50x5 ANGLE	Q235
RAIL FOR MATERIAL	150x75x14 kg/m I-BEAM	Q355



CK-1284-01

MONORAIL RAIL TYPICAL SECTION AT

CHINA KING ENGINEERING LIMITED

中国精工工程技术有限公司

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网址：www.chinaking.com

设计：CK-1284-01

日期：2024/07/20

版本：1.0

设计人：KL

审核人：KL

批准人：KL

校对：KL

制图：KL

材料：S235

规格：100x50x5

数量：1

备注：-



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METHOD STATEMENT

Tensile Proof Load Test on Structural Fixings in Concrete and Masonry (BS 5080 : Part 1 : 1993 clause 6, 7.1.1 & 7.1.3 with modification)

Customer : Midi Aluminium Fabricator Ltd.

Project : Proposed Residential Development at TKOTL 70RP Phase 11, LOHAS Park, Tseung Kwan O

1. Introduction

- 1.1 This method statement described the procedure for conducting test under axial tensile force on structural fixings installed in concrete or masonry used in building and civil engineering.
- 1.2 The method statement was in accordance with BS 5080 : Part 1 : 1993 clause 6, 7.1.1 & 7.1.3.
- 1.3 Test procedure was modified for axial tension under sustained loading and relative movement was recorded.

2. Specimen information (Provided by customer)

- 2.1 Model of specimen : Hilti HST3-R M12

Maintain period	Recommended Load	Test Load
2 minutes	6.7 kN	13.5 kN

3. Sampling

- 3.1 The specimen shall be randomly selected at least 1% or 5 numbers, whichever is more, for each type and size of the fixings by the customer.

4. Test Requirement

- 4.1 Test load

The test load shall be minimum equal to 1.5 times of the recommended tensile load or specified by the customer.

- 4.2 Maintain period

The test load will be maintained for at least 2 minutes, or other time period as specified by the customer.





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5. Equipment

- 5.1 For the tensile proof loading of structural fixings, the following equipment shall be used:
- Hydraulic hand pump & cylinder
 - Load cell
 - Dial gauge for measuring relative movement
 - Timing device
 - Loading frame
 - Pulling rod, coupler, adaptor or fixture for assembling to the fixing

6. Procedure

- Ensure that the fixings to be tested are as specified on the job or by the customer, including type, model & size of specimen, test location and installation details e.g. hole diameter & embedder length.
- Check visually the test specimen and surrounding base material without any damage.
- Select suitable loading device according to the test load provided by the customer, the type / diameter of the specimen and the environmental condition.
- Set up the apparatus according to the diagram. Ensure that the alignment of the whole test set up is such that the tensile force is applied along the axis of the test specimen.
- Initially a force sufficient to take up any slack in the apparatus and attachment shall be applied.
- Without re-setting the load cell and dial gauge, increase the load steadily to reach the required test load in 10 increments. When the test load is low (e.g. $\leq 10\text{kN}$), increment numbers can be reduced to 5. Applied force & dial gauge reading at each increment and at test load shall be recorded.
- The test load shall be maintained for required time e.g. 2 minutes, and applied force & dial gauge reading after holding shall be recorded.
- If failure has not taken place, release the load and record the dial gauge reading after load released.
- Detach the test apparatus and examine the test specimen and surrounding base material for any damage. Damage of test specimen or surrounding base material shall be recorded as a failure.
- If failure observed during the test e.g. damage of test specimen or surrounding base material, or movement of fixing at least 5mm, test may be terminated. Mode of failure and maximum sustained load shall be recorded.

7. Acceptance criteria

- Fixings can be said to have satisfied the proof test if test specimen did not show any signs of separation, plastic deformation or deleterious effect.
- Recovery of the deformation after removal of all loads should be at least 80% of the total deformation at the maximum test load





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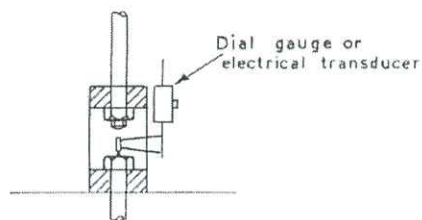
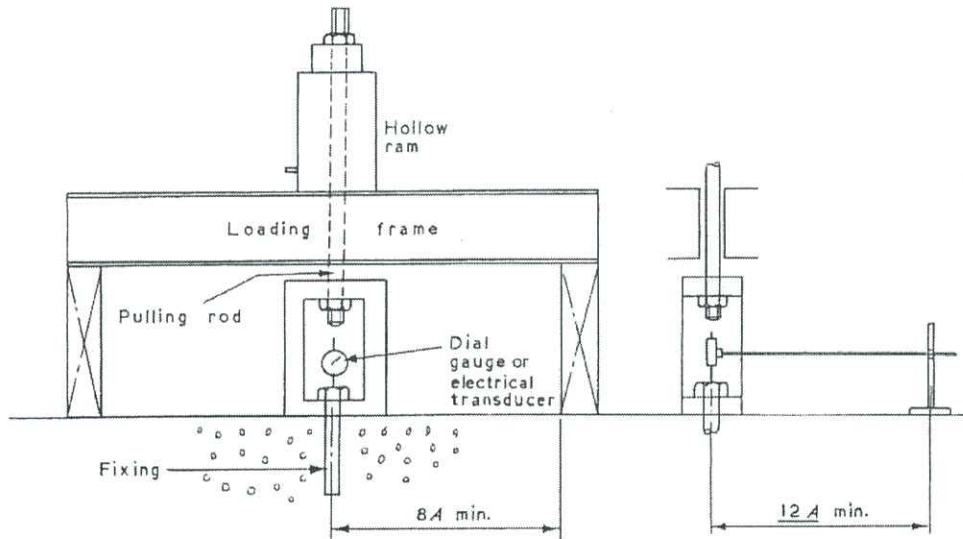
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8. Record

8.1 The test results shall be recorded in a standard form for the record to the customer.

9. Typical set-up of the tensile proof load test on structural fixing (anchor bolt)



-END-

