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# HUATRACO SCAFFOLD SDN BHD (240510-T)

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# Compliance of Scaffold Based On CIDB ACT 520 (Fourth Schedule)

MS 1462-1:2012 Frame Scaffolding

# **ACT 520 (AMENDMENT 2011):**

### CERTIFICATION OF STANDARDS COMPLIANCE FOR BUILDING MATERIALS

- CIDB has on 1 June 2015 implemented that only building materials which have received the Certification of Standards Compliance can be used in construction projects. There are 13 affected material groups listed under The Fourth Schedule Subsection 33 C (1) in the act.
- Item no. 11 (d) (iii) Specification for steel frame scaffoldings (HS Code: 730840) is listed under this Fourth Schedule.

# FOURTH SCHEDULE [Subsection 33c (1)] STANDARDS FOR CERTIFICATION OF CONSTRUCTION MATERIAL

| No.     | Type of Construction Material                       | Approved Standards by the Lembaga    |
|---------|---|--------------------------------------|
| 11. (d) | STRUCTURAL AND OTHER CAST IRON AND ARTICLES         |                                      |
|         | i. Bridges and bridge sections                      | MS EN 10025: Part 2                  |
|         | ii. Towers and lattice masts                        | MS EN 10025: Part 2                  |
|         | iii. Scaffolding                                    | MS 1462: Part 1 to 4                 |
|         | iv. Corrugated sheet pile cold form                 | MS 2025-1<br>MS 2025-2               |
|         | v. Bearing piles – angle shape and section          | MS EN 10025: Part 2                  |
|         | vi.Guardrails                                       | AASHTO M-180<br>BS EN ISO -1461      |
|         | vii. Fabricated structure                           | MS EN 10025:Part 2                   |
|         | viii. Railway track                                 | JIS E 1101<br>DIN 536<br>BS EN 13674 |
|         | ix. Light gauge steel section                       | MS EN 10025: Part 2                  |
|         | x. Equal angles, shape and section U, I, L, T, or H | MS EN 10025: Part 2                  |

# **HUATRACO STEEL FRAME SCAFFOLDING COMPONENTS**









#### **TEST REPORT**

REPORT NO: 2016CB1073 PAGE: 2 OF

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#### **TEST RESULTS:**

Product

: Prefabricated Steel Frame Scaffolding

Model

: HT101

Method of Test

: a) MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

b) \*JIS G 3444 : 2010, Carbon Steel Tubes for General Structure

| CLAUSE   | REQUIREMENTS   | TEST RESULT | REMARK |
|----------|--|-------------|--------|
| 4<br>4.1 | Materials Manufacturing Tubes shall be manufactured from steel complying with JIS G3444                                    |             | N.A    |
| 4.2      | Material Protection The steel tubes shall be protected against corrosion resistance.                                       |             | N.A    |
| 4.3      | All scaffoldings accessories shall be manufactured from material in accordance with :                                      |             |        |
|          | 1) *Vertical Frame Tubular Vertical Post and Horizontal Member (JIS G3444) Symbol of Grade: STK 500 Chemical composition:- |             |        |
|          | - Carbon: ≤ 0.24 % - Silicon: ≤ 0.35 % - Manganese: 0.30 − 1.30 % - Phosphorus: ≤ 0.040 % - Sulphur: ≤ 0.040 %             |             | Pass   |
|          | Mechanical Properties:Yield Strength: ≥ 355 N/mm² -Tensile Strength: ≥ 500 N/mm² -Elongation: ≥ 15.0 %                     |             | Pass   |

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#### **TEST RESULTS:**

Product

: Prefabricated Steel Frame Scaffolding

Model

HT101

Method of Test

a) MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

b) \*JIS G 3444 : 2010, Carbon Steel Tubes for General Structure

c) \*JIS G 3101: 2010, Rolled Steels for General Structure

| CLAUSE | REQUIREMENTS  | TEST RESULT | REMARK |
|--------|---|-------------|--------|
| 4.3    | All scaffoldings accessories shall be manufactured from material in accordance with :   |             | 4      |
|        | Tubular Reinforcement Member (JIS G3444) Symbol of Grade: STK 400 Chemical composition: Carbon: ≤ 0.25 % - Phosphorus: ≤ 0.040 % - Sulphur: ≤ 0.040 %         |             | Pass   |
| ×      | Mechanical Properties:Yield Strength: ≥ 235 N/mm² -Tensile Strength: ≥ 400 N/mm² -Elongation: ≥ 23.0 %  |             | Pass   |
|        | Cross Brace Pin (JIS G3101) Symbol of Grade: SS 400 Chemical composition: Phosphorus: ≤ 0.050 % - Sulphur: ≤ 0.050 %  |             | Pass   |
|        | 2) *Cross Brace (JIS G3444) Tubular Brace Member Symbol of Grade: STK 400 Chemical composition: Carbon: ≤ 0.25 % - Phosphorus: ≤ 0.040 % - Sulphur: ≤ 0.040 % |             | Pass   |
|        | Mechanical Properties:Yield Strength: ≥ 235 N/mm² -Tensile Strength: ≥ 400 N/mm² -Elongation: ≥ 23.0 %  |             | Pass   |

#### **TEST REPORT**

REPORT NO: 2016CB1073 PAGE: 4 OF 13

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : a) MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

b) \*JIS G 3505: 2004, Low Carbon Steel Wire Rods

c) \* JIS G 3101: 2010, Rolled Steels for General Structure

| REQUIREMENTS   | TEST RESULT  | REMARK  |
|--|--|---|
| All scaffoldings accessories shall be manufactured from material in accordance with :  |  |   |
| 3) *Adjustable Base Plate (JIS G 3101: 2010) Plate for adjustable base plate Symbol of Grade: SS330 Chemical composition: Phosphorus: ≤ 0.05 % - Sulphur: ≤ 0.05 % |  | Pass  |
| 4) *Adjustable U- Head (JIS G 3101: 2010) Plate for U-Head Symbol of Grade: SS330 Chemical composition: Phosphorus: < 0.05 % - Sulphur: < 0.05 %                   |  | Pass  |
| 5) *Wall Tie (JIS G 3101: 2010) Bolt, nut & Pin Symbol of Grade: SS330 Chemical composition: Phosphorus: ≤ 0.05 % - Sulphur: ≤ 0.05 %                              |  | Pass  |
|  |  |   |
|  | All scaffoldings accessories shall be manufactured from material in accordance with :  3) *Adjustable Base Plate (JIS G 3101: 2010) Plate for adjustable base plate Symbol of Grade: SS330 Chemical composition: Phosphorus: ≤ 0.05 % - Sulphur: ≤ 0.05 %  4) *Adjustable U- Head (JIS G 3101: 2010) Plate for U-Head Symbol of Grade: SS330 Chemical composition: Phosphorus: ≤ 0.05 % - Sulphur: ≤ 0.05 %  5) *Wall Tie (JIS G 3101: 2010) Bolt, nut & Pin Symbol of Grade: SS330 Chemical composition: Phosphorus: ≤ 0.05 % | All scaffoldings accessories shall be manufactured from material in accordance with :  3) *Adjustable Base Plate (JIS G 3101: 2010) Plate for adjustable base plate Symbol of Grade : SS330 Chemical composition: Phosphorus: ≤ 0.05 % - Sulphur: ≤ 0.05 %  4) *Adjustable U- Head (JIS G 3101: 2010) Plate for U-Head Symbol of Grade : SS330 Chemical composition: Phosphorus: ≤ 0.05 % - Sulphur: ≤ 0.05 % - Sulphur: ≤ 0.05 %  5) *Wall Tie (JIS G 3101: 2010) Bolt, nut & Pin Symbol of Grade : SS330 Chemical composition: Phosphorus: ≤ 0.05 % |

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#### TEST RESULTS:

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : a) MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

b) \*JIS G 3452: 1997, Carbon Steel Pipe for Ordinary Piping

| CLAUSE | REQUIREMENTS  | TEST RESULT | REMARK |
|--------|---|-------------|--------|
| 4.3    | All scaffoldings accessories shall be manufactured from material in accordance with :  6) *Joint Pin (JIS G 3452) Symbol of Grade : SGP |             |        |
| 100    | Chemical composition: Phosphorus: ≤ 0.04 % - Sulphur: ≤ 0.04 %  |             | Pass   |
| 4.4    | Manufacturing method  |             | N.A    |
| 4.5    | Quality   |             | N.A    |
|        |   |             |        |

#### **TEST REPORT**

REPORT NO: 2016CB1073 PAGE: 6 OF 13

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

| CLAUSE   | REQUIREMENTS   | TEST RESULT | REMARK       |
|----------|--|-------------|--------------|
| 5<br>5.1 | Dimensional Requirements Tolerances Height: 1700 mm ± 1.0 mm Width: 1219 mm ± 1.0 mm   |             | Pass<br>Pass |
| 5.2      | Member and fittings The dimensions of each member and its associated fittings shall comply with the tolerances given in table 2. |             |              |
|          | 1) Vertical Frame Tubular Vertical Post and Horizontal Member Outer Diameter: 42.7 ± 0.25 mm Thickness: 2.5 ± 0.3 mm             |             | Pass<br>Pass |
|          | Tubular Reinforcement member Outer Diameter: 27.2 ± 0.25 mm Thickness: 2.0 ± 0.3 mm  |             | Pass<br>Pass |
|          | <u>Cross Brace Pin</u><br>Outer Diameter : 14.0 ± 1.0 mm   |             | Pass         |
|          | 2) Cross Brace Tubular Brace Member Outer Diameter: 21.7 ± 0.25 mm Thickness: 2.0 ± 0.3 mm                                       |             | Pass<br>Pass |
|          | <u>Hinge Pin</u><br>Outer Diameter : 7.5 ± 0.7 mm  |             | Pass         |

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

| CLAUSE | REQUIREMENTS   | TEST RESULT | REMARK       |
|--------|--|-------------|--------------|
| 5.2    | Member and fittings The dimensions of each member and its associated fittings shall comply with the tolerances given in table 2. |             |              |
|        | 3) Adjustable Base Plate Threaded Bar Minimum Outer Diameter : 32 mm   |             |              |
|        |  |             | Pass         |
|        | Plate for adjustable base plate Minimum Dimension : 120 mm x 120 mm  |             | Pass         |
|        | Thickness plate Minimum Thickness: 5.4 mm  |             | Pass         |
|        | 4) Adjustable U – Head<br>Threaded Bar   |             |              |
|        | Minimum Outer Diameter : 32 mm   |             | Pass         |
|        | Plate for adjustable base plate Minimum Dimension : 150 mm x 120 mm  |             | Pass         |
|        | Thickness plate Minimum Thickness: 5.4 mm  |             | Pass         |
|        | 5) *Joint Pin<br>Tenon   |             |              |
|        | Minimum Outer Diameter : 95 mm<br>Minimum Thickness : 2.2 mm   |             | Pass<br>Pass |
|        | Collar   |             |              |
|        | Minimum Outer Diameter : 25 mm<br>Minimum Thickness : 2.2 mm   |             | Pass<br>Pass |

# MS 1462 -1:2012

Table 2. Material quality, dimensions and tolerances for components of frame scaffoldings

|                     |                                |                                  |  | Dimension         | ns (mm)   | Tolerand       | ces (mm)  |
|---------------------|--------------------------------|----------------------------------|--|-------------------|-----------|----------------|-----------|
| Member              | Comp                           | ponent                           | Material quality   | Outer<br>diameter | Thickness | Outer diameter | Thickness |
| Vertical            | Tubular vertical pos<br>member | t and horizontal                 | STK 500 specified in JIS G3444 or equivalent                                       | 42.7              | 2.5       | ±0.25          | ±0.3      |
| frame               | Tubular reinforceme            | ent member                       | STK 400 specified in JIS G3444 or equivalent                                       | 27.2              | 2.0       |                |           |
|                     | Cross brace pin                |                                  | SS 400 specified in JIS G3101 or equivalent  | 14.0              |           | ±1.0           |           |
| Cross               | Tubular brace mem              | ber                              | STK 400 specified in JIS G3444 or equivalent                                       | 21.7              | 2.0       | ±0.25          | ±0.3      |
| brace               | Hinge pin                      |                                  | SWRM 20 specified in JIS G3505 (Low carbon steel wire rods) or equivalent          | 7.5               |           | ±0.7           |           |
| Harizantal          | Tube member                    |                                  | STK 500 specified in JIS G3444 or equivalent                                       | 42.7              | 2.5       | ±0.25          | ±0.3      |
| Horizontal<br>frame | Tubular arm or trave           | erse member                      | STK 400 specified in JIS G3444 or equivalent                                       | 34.0              | 2.3       |                |           |
| Irame               | Clamp or hook                  |                                  | SS 400 specified in JIS G3101 or equivalent  |                   | 8.0       | -              | ±0.8      |
| Catwalk or          | Catwalk member                 | Steel plate                      | SPHC specified in JIS G3131 or equivalent  | 500*              | 1.2       | -              | ±0.1      |
| tread board         | Clamp or hook                  |                                  | SS 400 specified in JIS G3101 or equivalent  |                   | 8.0       | -              | ±0.8      |
|                     | Threaded bar                   |                                  | SS 330 specified in JIS G3101 or equivalent  | 32**              | -         | -              | -         |
| Adjustable          | Plate for adjustable           | base plate                       | SS 330 specified in JIS G3101 or equivalent  | 120 x 120***      | 5.4***    | -              | -         |
| base plate/         | Plate for U-head               |                                  | SS 330 specified in JIS G3101 or equivalent  | 150 x 120***      | 5.4***    | -              | -         |
| U-head              | Adjusting nut                  |                                  | FCMB 310 specified in JIS G5702 (Blackheart malleable iron castings) or equivalent | -                 | -         | -              | -         |
|                     | Vertical, lateral & di         | agonal members                   | SGP specified in JIS G3452 or SS 330 specified in JIS G3101 or equivalent          | -                 | -         | -              | -         |
| Bracket             | Metal fittings                 | Bolt, nut & pin                  | SS 330 specified in JIS G3101 or equivalent  | -                 | -         | -              | -         |
|                     |                                | Parts other than bolt, nut & pin | SPHD specified in JIS G3131 or equivalent  | -                 | -         | -              | -         |
| Wall tie            | Principal member               |                                  | SGP specified in JIS G3452 or SS 330 specified in JIS G3101 or equivalent          | -                 | -         | -              | -         |
|                     | Gripper metal fittings         | Bolt, nut & pin                  | SS 330 specified in JIS G3101 or equivalent  | -                 | -         |                | -         |
|                     | intuligo                       | Parts other than bolt, nut & pin | SPHD specified in JIS G3131 or equivalent  | -                 | -         | -              | -         |
|                     | Metal fittings                 |                                  | SS 400 specified in JIS G3101 or equivalent  | -                 | -         | -              | -         |
|                     | •                              |                                  |  |                   |           |                |           |

# MS 1462 -1:2012

Table 2. Material quality, dimensions and tolerances for components of frame scaffoldings (continued)

|             |                      |                     |  | Dimension | ns (mm)    | Tolerand | ces (mm)  |
|-------------|----------------------|---------------------|--|-----------|------------|----------|-----------|
| Member      | Comp                 | ponent              | Material quality                             | Outer     | Thickness  | Outer    | Thickness |
|             |                      |                     | , ,  | diameter  |            | diameter |           |
| loint nin   | Tenon                |                     | SGP specified in JIS G3452 or equivalent     | 95†       | 2.2        | -        | -         |
| Joint pin   | Collar               |                     | 1  | 25†       | 1          | -        | -         |
| Arm lock    |                      |                     | SS 330 specified in JIS G3101 or equivalent  | 38 (plate | 3.1 (plate | -        | ±0.3      |
| AIIII IOCK  |                      |                     | ·  | width)    | thickness) |          |           |
| Global      | Diagonal and horizon | ontal tubular brace | STK 500 specified in JIS G3444 or equivalent | 48.6      | 2.5        | ±0.25    | ±0.3      |
| bracing     | Clamp or fitting     | Body and cover      | SPHD specified in JIS G 3131                 | 42.7~48.6 | 3***       | ±1.0     | -         |
| system      |                      | Bolt, nut and pin   | SS330 specified in JIS G 3101                | 12**      | -          | -        | -         |
| Side        | Tube member          |                     | STK 500 specified in JIS G3444 or equivalent | 48.6      | 2.5        | ±0.25    | ±0.3      |
| protection/ | Clamp or fitting     | Body and cover      | SPHD specified in JIS G 3131                 | 42.7~48.6 | 3***       | ±1.0     | -         |
| Guard rail  |                      | Bolt, nut and pin   | SS330 specified in JIS G 3101                | 12**      | -          | -        | -         |
| Toe board   | Board Member         | Lipped channel      | SPHC specified in JIS G 3131 or equivalent   | 150*      | 1.2        | -        | ±0.1      |

Minimum width

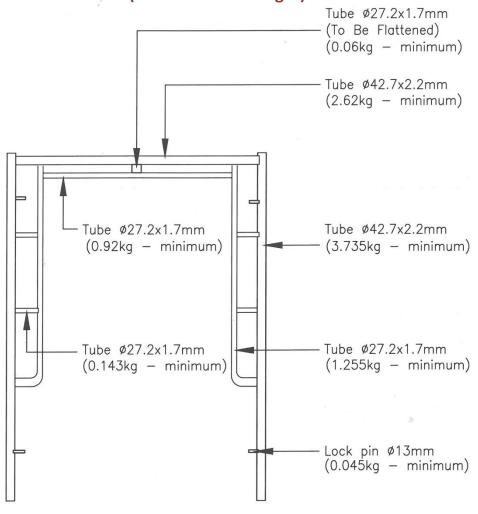
<sup>\*\*</sup> Minimum diameter

<sup>\*\*\*</sup> Minimum dimension

<sup>†</sup> Minimum length

### **HT101 VERTICAL FRAME**

1219mm X 1700mm X 2.5mm thk. (Calculation of Weight)



#### **TEST REPORT**

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#### **TEST RESULTS:**

: Prefabricated Steel Frame Scaffolding Product

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding – Part 1: Prefabricated scaffold - Specification for Steel Frame Scaffoldings (First Revision)

| CLAUSE          | REQUIREMENTS   | TEST RESULT | REMARK               |
|-----------------|--|-------------|----------------------|
| 7<br>7.1<br>7.2 | Protection External Surface *Hot-dip galvanizing coating Annex A Requirements and quality control of zinc coating A1: Scope and field of application A2: Characteristic of the coating A2.2: Thickness of the coating The thickness of the coating shall be not less than 25 µm. The thickness test shall be carried out on the outside only. A3.2.2 (Magnetic Method)  Vertical Frame  Adjustable Base Plate  Adjustable U-Head |             | Pass<br>Pass<br>Pass |

#### **TEST REPORT**

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

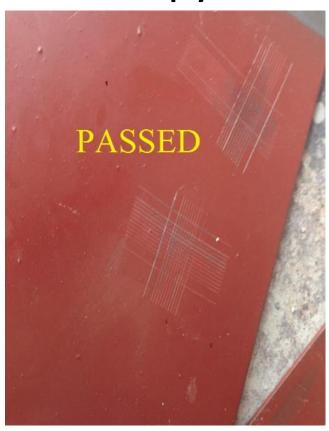
| CLAUSE | REQUIREMENTS  | TEST RESULT | REMARK |
|--------|---|-------------|--------|
| 7.3    | *Paint Coating Annex B Requirements and field of application B1: Scope and field of application B2: Characteristic of the coating   |             |        |
|        | Vertical Frame B2.1: Corrosion Resistance The degree of corrosion shall not exceed 1% of the surface area of the test specimen at the end of the minimum exposure time. Minimum: 100 hours Maximum: 500 hours |             | Pass   |
|        | B2.2: Adhesion The detached surface shall not exceed 15% of the cross-cut area.   |             | Pass   |
| 8      | Welding   |             | N.A    |
| 9      | Used and refurbished frame scaffolding system   |             | N.A    |
| 10     | Marking   |             | N.A    |

# CROSS CUT TEST – VIDEO



# **CROSS CUT TEST RESULT**

**Comply** 



**Not Comply** 



#### **TEST REPORT**

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

| CLAUSE                       | REQUIREMENTS  | TEST RESULT | REMARK |
|------------------------------|---|-------------|--------|
| 6<br>6.1<br>6.1.1<br>6.1.1.1 | Testing System Performance Test Load Test on a 3-bay x 3-lift frame scaffolding system ** Stiffness Test After removal of the test load, the member or structure shall be deemed to have adequate stiffness if all measured strains or deflections show a recovery of at least 80%. If any of the measured strain or deflection values does not show a recovery of at least 80% of the respective maximum values recorded during the 2 hours under test load, the test shall be repeated.  The structure shall be considered to |             | Pass   |
|                              | have sufficient stiffness provided the recovery after the second test is not less than 90% of the respective maximum increase in strain or deflection shown in the second test.   |             | N.A    |
| 6.1.1.2                      | ** Strength Test The structure shall be deemed to have adequate strength if during the test, no part fails and if on removal of the test load, all measured strains or deflection values show a recovery of at least 20% of the respective maximum values recorded during the 2 hours under test load.  |             | Pass   |

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

| CLAUSE           | REQUIREMENTS   | TEST RESULT | REMARK |  |
|------------------|--|-------------|--------|--|
| 6.1.2<br>6.1.2.1 | Lateral Load Test  ** Stiffness Test All measured strains or deflection values shall show a recovery of at least 80% of the respective maximum values recorded during the 2 hours under test load.   |             | Pass   |  |
| 6.1.2.2          | ** Strength Test The structure shall be deemed to have adequate strength if during the test, no part completely fails and if on removal of the test load, all measured strains or deflection values show a recovery of at least 20% of the respective maximum values recorded. |             | Pass   |  |

#### **TEST REPORT**

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

| CLAUSE | REQUIREMENTS   | TEST RESULT | REMARK       |
|--------|--|-------------|--------------|
| 6.2    | Load Test on the Components of a Frame Scaffolding System              |             |              |
|        | 1) Vertical Frame  |             |              |
|        | Annex E1 Load Test on Horizontal Members of a                          |             |              |
|        | frame  |             |              |
|        | The vertical deflection under a load of 9.8 kN shall not exceed 10 mm. |             | Pass         |
|        | Annex E2 Compression test on Vertical Tubes.                           |             |              |
|        | (Vertical posts or legs)   |             |              |
|        | Height of frame :1800 mm or lower<br>Average : 78.5 kN minimum         |             | Pass         |
|        | Individual frame : 73.5 kN minimum                                     |             | Pass         |
|        | 2) Cross Brace   |             |              |
|        | Annex F  |             |              |
|        | Load Test on Cross Braces  |             |              |
|        | Average : 8.0 kN<br>Individual : 7.3 kN                                |             | Pass<br>Pass |

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#### **TEST RESULTS:**

Product : Prefabricated Steel Frame Scaffolding

Model : HT101

Method of Test : MS 1462 -1: 2012

Metal Scaffolding - Part 1: Prefabricated scaffold - Specification for Steel

Frame Scaffoldings (First Revision)

| CLAUSE | REQUIREMENTS   | TEST RESULT | REMARK       |
|--------|--|-------------|--------------|
| 6.2    | Load Test on the Components of a Frame Scaffolding System  3) Adjustable Base Plate  Annex J  Load test on an adjustable jack base/U-head  |             |              |
|        | Proof Load Test Proof Load Test of adjustable jack base When tested under a load 59.8 kN, it shall not show any sign of distortion and the function shall not be impaired.  4) Adjustable U-Head |             | Pass         |
|        | Proof Load Test Proof Load Test of adjustable jack base When tested under a load 59.8 kN, it shall not show any sign of distortion and the function shall not be impaired.                       |             | Pass         |
|        | 5) *Cross Brace Pin of a Vertical Frame  Annex N Tensile load shall be applied to the assembly until the maximum is reached.   |             |              |
|        | Average : 6.3 kN (Minimum)<br>Individual : 5.9 kN (Minimum)  |             | Pass<br>Pass |

# Load Test 1 Bay x 3 Lift

Source : MS1462-1

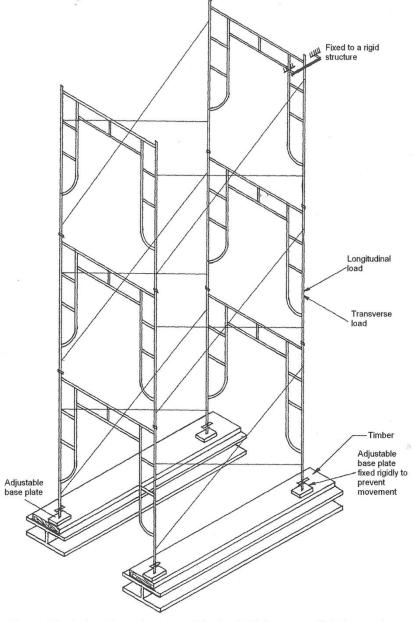


Figure D1. Lateral load test on a 1-bay x 3-lift frame scaffolding system

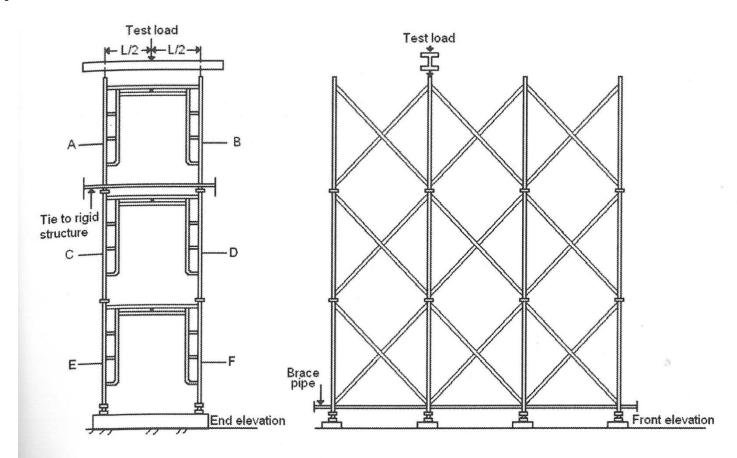


**STEEL FRAME SCAFFOLDING** 

TESTING METHOD – LOAD TEST 1 BAY x 3 LIFT

# Load Test 3 Bay x 3 Lift

Source: MS1462-1



NOTE. A, B, C, D, E and F (located at mid-height of the vertical post) are the locations where the transverse and longitudinal deflections are measured.

Figure C1. Load test on a 3-bay x 3-lift frame scaffolding system



**STEEL FRAME SCAFFOLDING** 

TESTING METHOD – LOAD TEST 3 BAY x 3 LIFT

# **MARKING ON PRODUCTS**









# **TAGGING ON BUNDLES**



# **PRODUCT CERTIFICATE**



No Lesen: PC002533 Licence No.

#### LESEN PENSIJILAN BARANGAN

Product Certification Licence



SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada SIRIM QAS International Sdn. Bhd. hereby grants to

HUATRACO SCAFFOLD SDN. BHD. LOT 6088, JALAN HAJI ABDUL MANAN BATU 5 1/2, JALAN MERU 41050, KLANG SELANGOR, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan a licence to use the Certification Mark on

PREFABRICATED STEEL FRAME SCAFFOLDING

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan as complying with MS 1462-1 : 2012



Mohd Azanuddin bin Salleh Pengarah Urusan Managing Director SIRIM QAS International Sdn. Bhd.

SIRM GAS International Sea, Sun, 12 Tarikh Mula Pensijilan : 30 September 2016 (1997) | 1 Pensiren Clark Homeo Gardified Sirice Seksyny 7: Pensiren Clark Homeo Gardified Sirice Seksyny 7: Pensiren Clark Homeo Gardified Sirice Seksyny Charles Sea Seksyny Charles Seksyny

Tarikh Dikeluarkan : 06 October 2016

Issue Date No Siri

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Serial No



Licence No.

#### SCHEDULE

SIRIM

Model Rating HUATRACO SCAFFOLD SDN. BHD.

COATING TYPE= HOT DIP GALVANISING AND PAINTING
COMPONENTS= VERTICAL FRAME, CROSS BRACE, JOINT PIN, U HEAD,
UACK BASE AND WALL TIE

: HUATRACO

End of page

(No. Syerikat 416334-X)

1. Persiaren Dato' Menteri
Seksyen 2. Peti Surat 7035
40700 Shah Alam
Sah Sehingga

SIRIM QAS International Sdn. Bhd. Tarikh Mula Pensijilan : 30 September 2016

: 30 September 2017

Issue Date No Siri Serial No.

Tarikh Dikeluarkan : 06 October 2016

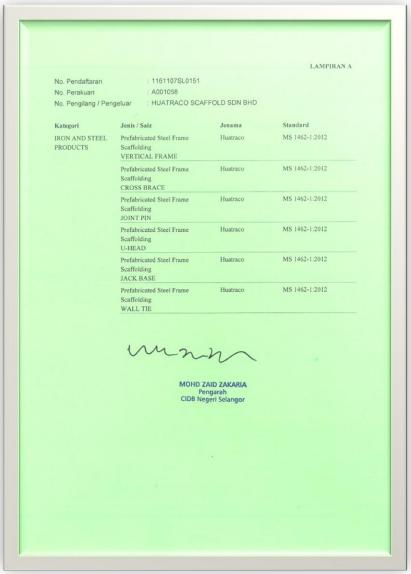
026495

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Page 1 of 1

# **CERTIFICATION OF CONSTRUCTION PRODUCTS AND MATERIALS (CCPM)**





# FRAME SCAFFOLDING **CERTIFICATION OF COMPLIANCE**



Our Reference: LPIPM: SO/PBI/14/02/11 ( 32 ) Date : 30 Jun 2016

HUATRACO SCAFFOLD SDN. BHD LOT 6088, JALAN HAJI ABDUL MANAN BATU 5 1/2, JALAN MERU 41050 KLANG SELANGOR

Dear Sir,

#### CERTIFICATION OF STANDARD COMPLIANCE

CIDB Malaysia hereby certifies that your Accessories for Prefabricated Scaffolding as follows:

Brand Model

CATWALK WITH HOOKS Type

THICKNESS(mm)=MIN 1.08; WIDTH(mm)=500; LENGTH (mm)= 1829

Model

CATWALK (METAL DECK) WITHOUT HOOKS Type

THICKNESS(mm)=MIN 1.08; WIDTH(mm)= 200, 210, 240; LENGTH

(mm)= 1500, 2000, 3000, 4000

Comply with the MS 1462-1: 2012 with reference to Product Certification License PC002201.

- 2. The expiry date for this certification is 11 March 2017.
- We acknowledged that the importer for the product is Huatraco Scaffold Sdn. Bhd.

"BUILDING YOUR SUCCESS"

SAZALICHE AMAT General Manager
Construction Materials Division

CIDB Malaysia

LEMBAGA PEMBANGUNAN INDUSTRI PEMBINAAN MALAYSIA

Tingkat 10, Menara Dato' Onn, Pusat Dagangan Dunia Putra, No.45, Jalan Tun Ismail, 50480 Kuala Lumpur, MALAYSIA 1 • 6 03-4047 7000 f • 6 03-4047 7070 www.cidb.gov.my









# WHAT THE LAW SAYS?

### CIDB's Act 520

- Section 33D(2): Any person who deal or undertake to deal with the construction materials specified in the Fourth Schedule without the certification of the Lembaga shall be guilty of an offence and shall, on conviction, be liable to a fine of not less than RM10,000 but not more than RM500,000.'
- Section 35C(2)(a): Search and seize any construction materials, equipment, instrument, book, record, document, computerized document, article or other thing that is reasonably believed to furnish evidence of the commission of such offence

# WHAT THE LAW SAYS?

### CIDB's Act 520

- Section 33C(1): 'The Lembaga shall, in the manner determined by the Lembaga, certify the construction materials used in the construction industry and specified in the Fourth Schedule in accordance with the standard specified in the Schedule.'
- Section 33D(1): 'A person shall not deal or undertake to deal, whether directly or indirectly, with the construction materials specified in the Fourth Schedule unless the construction materials have been certified by CIDB.'

# **ENFORCEMENT BY CIDB**

# **Power of Investigation**

- A. Enter premises/ sites
  - Simple inspection on products can be carried out on following criteria:
    - i. Weight
    - ii. Thickness
    - iii. Surface finishing
    - iv. Coating The thickness of the coating shall be not less than25 micron meter. The thickness test shall be carried out on the outside only.
- B. Samples can be sent to accredited lab for full testing to ensure the compliance of MS1462 e.g. load bearing test, material composition, grade of material used etc.

# TOOLS / EQUIPMENTS USED TO MEASURE THE PRODUCTS AT SITE









# TOOLS / EQUIPMENTS USED TO MEASURE THE PRODUCTS AT SITE





# Website To Check Compliances

# www.malaysiancertified.com.my



#### Product Certification

| Company Name                | Country  | License<br>No. | Product Name   | Standard                    |
|-----------------------------|----------|----------------|--|-----------------------------|
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | PC002269       | NON-ALLOY STEEL TUBE   | MS 863 : 2010               |
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | PC002604       | COUPLERS FOR TUBULAR SCAFFOLDING   | MS 1462-2-3 :<br>2011       |
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | PC002201       | ACCESSORIES FOR PREFABRICATED SCAFFOLDING  | MS 1462-1 : 2012            |
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | PC002025       | COLD FORMED WELDED CARBON STEEL STRUCTURAL<br>TUBING IN ROUND AND SHAPE                          | ASTM A 500/A<br>500M : 2013 |
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | DC002404       | [A] A] B B B F A   2   1   1   1   2   2   1   2   3   3   4   2   4   4   4   4   4   4   4   4 | ASTM A 500/A<br>500M : 2013 |
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | PC002533       | PREFABRICATED STEEL FRAME SCAFFOLDING  | MS 1462-1 : 2012            |
| HUATRACO SCAFFOLD SDN. BHD. | MALAYSIA | PC002622       | STEEL TUBES FOR TUBULAR SCAFFOLDING  | MS 1462-2-1 :<br>2010       |

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