BASIC OF SCAFFOLDING

A. GENERAL

International Standard:
1. BS 1139 – 1990: Metal Scaffolding & Accessories
2. EN 74
3. ANSI A10.8 – 1988: Scaffolding Safety Requirement
4. OSHA Federal Regulation Part 1910 & 1926
5. AS 1576.3 - 1991: Syarat-syarat Umum Scaffolding
6. JIS G3444 – 2004

Indonesian Standard:
1. Undang-undang No. 01 – 1970: Keselamatan Kerja

The Difference between BS 1139 Standard with AS 1576.3 Standard:

<table>
<thead>
<tr>
<th>Iron Pipes</th>
<th>BS 1139 - 1990</th>
<th>AS 1576.3 - 1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of Dia.</td>
<td>48,33 ± 0,5 mm</td>
<td>48,33 ± 0,5 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>4,0 ± 0,5 mm</td>
<td>4,0 ± 0,5 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Galvanized Pipes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of Dia.</td>
<td>48,33 ± 0,5 mm</td>
<td>48,33 ± 0,5 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>4±10% mm</td>
<td>3,2 ± 0,48 mm</td>
</tr>
</tbody>
</table>

Load & Dimensions:

<table>
<thead>
<tr>
<th></th>
<th>Transom (Lebar)</th>
<th>Ledger (Panjang)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Duty (225 kg)</td>
<td>2,4 m</td>
<td>3 m</td>
</tr>
<tr>
<td>Medium Duty (450 kg)</td>
<td>1,8 m</td>
<td>2,4 m</td>
</tr>
<tr>
<td>High Duty (675 kg)</td>
<td>1,275 m</td>
<td>1,8 m</td>
</tr>
</tbody>
</table>

The Terms of Installation of Scaffolding:
- Weight max. of worker: ± 80 kg
- Jarak antara Ledger dengan diatasnya dan jarak antara Transom dengan diatasnya max. 2m
- Height of scaffolding: min. ± 1,8 m
- Kemiringan penguat (bracing): 35° ÷ 55°
- Kemiringan tangga (ladder): 4:1 (75°) dan tidak lebih dari 6:1
- Jarak antar anak tangga: 300 ± 2 mm
- Ukuran papan (plank): 225 mm x 35 mm
- Ukuran pondasi (base plate): 150 mm x 150 mm x 6 mm
- Tali serat (fiber rope): Ø 16 mm dengan beban angkat max. 50 kg
- Jarak kabel listrik sejajar yg beraliran & tidak terisolasi: 4,5 m

Personnels for Scaffolding Construction:
1. Scaffolding Inspector: 1 personnel
2. Helper: 4 personnels

Inspection of Scaffolding:
1. Diperiksa oleh Scaffolding Inspector
2. Bengkok yang mempengaruhi kerataan (tidak lebih 1 mm dari setiap panjang 600 mm)
3. Bebas dari retak, robek, penyok dan karat
4. Potongan ujung pipa harus halus, rata dan tidak bergerigi
B. STRUCTURE OF SCAFFOLDING

- Hand Rail / Top Rail
- Mid Rail
- Toe Board
- Transom
- Bracing
- Stairway
- Decking
- Ledger
- Base Plate
### SCAFFOLDING SAFETY CHECK LIST

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ACCEPTABLE</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SCAFFOLD REGISTER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. WARNING SIGN AND SIGN BOARDS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SCAFFOLD BEING SECURED OR FIXED TO STRUCTURE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. VERTICALLY AND HORIZONTALLY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. BASE - Sufficient under pining (wood planks) in addition to base plates must be sound and rigid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. CROSS BRACE TO SUPPORT AND PREVENT STRUCTURE FROM TWISTING OR CORKSCREWING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. PLANKING, PLATFORM PROPERLY SECURED MINIMUM 2 BOARDS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. SHORING-To prevent swaying and movement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. CORNER-Property Connected and clamp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. RAILING AND GUARD RAIL-including end railing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. TOE BOARDS OR KICK BOARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. HEIGHT OF SCAFFOLDING-Generally 45 meter and more-but in any case would require scaffolding plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. ACCESS- Stairs or ladders handrail. Would be provided.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. SAFETY NET-if and when required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. INSPECTION LOG.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL NOTE PRIOR TO USE.**

1. SAFE WORK PERMITS APPLIED.
2. CAUTION SIGNS.
   a. During Installation.
   "NO ENTRY"
   "DANGER OVERHEAD"
   "INSTALLATION IN PROGRESS"
   b. After Installation.
   "THIS SCAFFOLDING HAS BEEN CHECK AND SAFE FOR USE"

---

**Check By** | **Confirmed By**
---|---
Name : (Scaffolding Inspector) | Name : (Area Coordinator)
Date : | Date :
D. SCAFFOLD TAG

- Red Tag

Red Tag shall be putted while Scaffold still in under constructed and do not ready for used

- Green Tag

Green Tag putted after Scaffold is already constructed and inspected by Scaffolding Inspector and approved for used safely
E. SCAFFOLD ACCIDENT

Scaffold accidents result from a range of causes, caused by:

- Inadequate scaffold design
- Absence of a ‘competent person like Scaffolding Inspector’ to oversee scaffold construction or compliance with safety standards
- Failure of scaffold tie wires, bracing, planking, guard railing, locks.
F. REFERENCES

- Informations of Scaffolding from Internet
- Companies Specification/Procedure regarding Scaffolding