



## Declaration of Conformity

Registration No.: EPTC-BL-S1103682

Issue date: March 09, 2011

The submitted products have been tested by us with the listed standards and found in compliance with the following standard:

**EN 14396: 2004**

**Applicant:** Zhejiang Baili Electric Co., Ltd.  
No. 89 Kaifa Road, Baihuashan Industrial Area, Wuyi,  
Zhejiang, China

**Product:** MANHOLD LADDER

**Model Number:** 18-4614, 18-4604, 18-4605, 18-4606, 18-4607, 18-4608,  
18-4609, 18-4610, 18-4612

The tests were performed in normal operation mode. The test results apply only to the particular sample tested and to the specific tests carried out.

This certificate applies specifically to the sample investigated in our test reference number only.

The CE markings as shown below can be affixed on the product after preparation of necessary technical documentation.

Other relevant directives have to be observed.



Authorized by: 

Eliza Chen



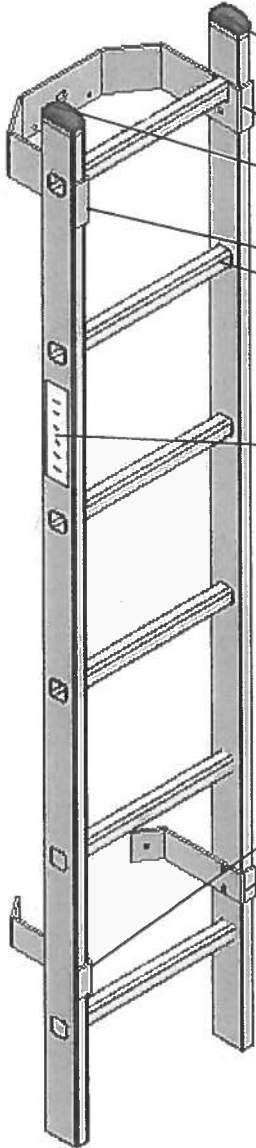
**Eport Compliance Laboratory Limited**

Http: //www.eportsz.com



Tomteveien 53 1618 Fredrikstad  
tlf: 69 33 95 00 faks: 69 33 95 09

# Product control



## Manhol Ladder

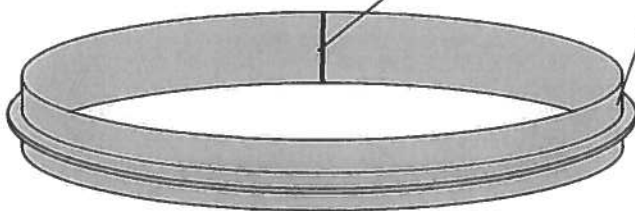
Material thickness in vang profile=1,2mm  
Material thickness of the pracket=4,5mm  
Pop rivet=Aluminium in 5x13mm

1. End pads
2. Upper bracket pops and placement
3. Step attachment, inside and outside
5. Correct label
4. Lower bracket pops and placement
6. Breakage or damage

## Suport Ring

material thickness=3mm  
Inside Dia=634mm  
Outside radius=2010mm  
Inside Dia=777mm  
Outside radius  $\text{Ø}78=2460\text{mm}$

1. Check weld
2. Check the outside radius
3. Breakage or damage



## Product control Stigesenteret AS



Factory: ZHEJING BAILI ELEKTRIC CO. LTD

Controller:..... Date:.....



Tomteveien 53  
1618 Fredrikstad  
Bank 1000.15.79547      Telefon: 69 339500  
NO 979729278 MVA      Telefaks: 69 339509  
post@stigesenteret.no      www.stigesenteret.no

## FDV-DOKUMENTASJON

### 1. Produktbeskrivelse

Stigesenterets kumstige er produsert i aluminium

### 2. Anvisning for drift og vedlikehold

**Antatt levetid/brukstid**

20 år forusatt normal bruk.

**Ettersyn/kontroll**

Ingen

### 3. Miljøpåvirkning

**Miljømerking**

Det foreligger ingen miljømerking for dette produktet.

### 4. Behandling av avfall

**Avfallstype**

Aluminium

**Avfallshåndtering**

Resirkulering

### 5. Teknisk Service

<b>Importør</b>	Stigesenteret AS
<b>Organisasjonsnr.</b>	979729278
<b>Postnr. og poststed</b>	1618 Fredrikstd
<b>Telefon</b>	69339500
<b>Epost</b>	post@stigesenteret.no
<b>Internettadresse</b>	www.stigesenteret.no

### VURDERING AV KUMSTIGE

Viser til Deres brev av 30.11.1998 med vedlegg.


Direktoratet for Arbeidstilsynet har vurdert at kumstigen ikke kommer inn under kravet om typegodkjenning i forskrift om stillaser, stiger og arbeid på tak-mm, best nr. 500, §-6. Dette betyr at den kan fritt onsettes i Norge, under forutsetning at den er dimensjonert og produsert i overensstemmelse med alminnelige anerkjente regler.

Direktoratet for Arbeidstilsynet anser fremgangsmåten Stigesenteret AS har benyttet, med kontakt med SINTEF, som forsvarlig. Som produsent/leverandør påligger det et ansvar å levere utførlig monterings- og bruksanvisning på norsk med kumstigen. Spesielt opplysning om risikoen for fall ved store høyder og hvordan man bør sikre seg.

Med hilsen  
for Direktoratet for arbeidstilsynet

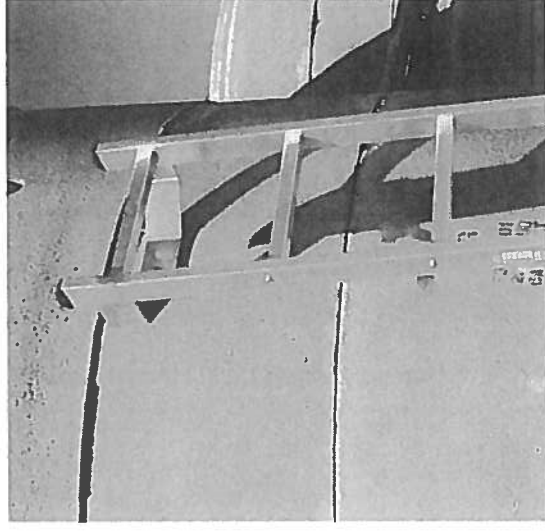


Gunnar Falch  
seksjonsleder



Kjell Arne Johansen  
overingeniør

# Varmgalv monteringsats for kumstiger



# Stige Senteret AS

Tomteveien 53 1618 Fredrikstad  
Tlf:69 33 95 00 Faks:69 3395 09

[www.stigesenteret.no](http://www.stigesenteret.no) [post@stigesenteret.no](mailto:post@stigesenteret.no)

# Monteringsanvisning

## Toppfeste

- 1) Tre 1 stk firkantskive og 1 stk nylonskive på bolten, tre så bolten gjennom kummen fra kummens utside. Tre så på 1 stk nylonskive, heng på stigen og 1 stk rundskive, sett på mutter og skru godt fast.
- 2) Bor 2 stk 6mm hull, som stemmer overens med hullene i toppfeste. Pass på så du ikke borer gjennom kummen, 50 mm inn er nok. Tre så spikerpluggene gjennom bunnfestet og inn i hullet i kummen. Slå dem så på plass.

## Bunnfeste

Likt som punkt 2 over.

Stigen er i henhold til EN 14396, type D.

Materiale: Aluminium T6063

Maks. avstand mellom festebraketter: 2500mm

Maks. vertikal belastning: 1500N

Avstand til vegg: 150mm

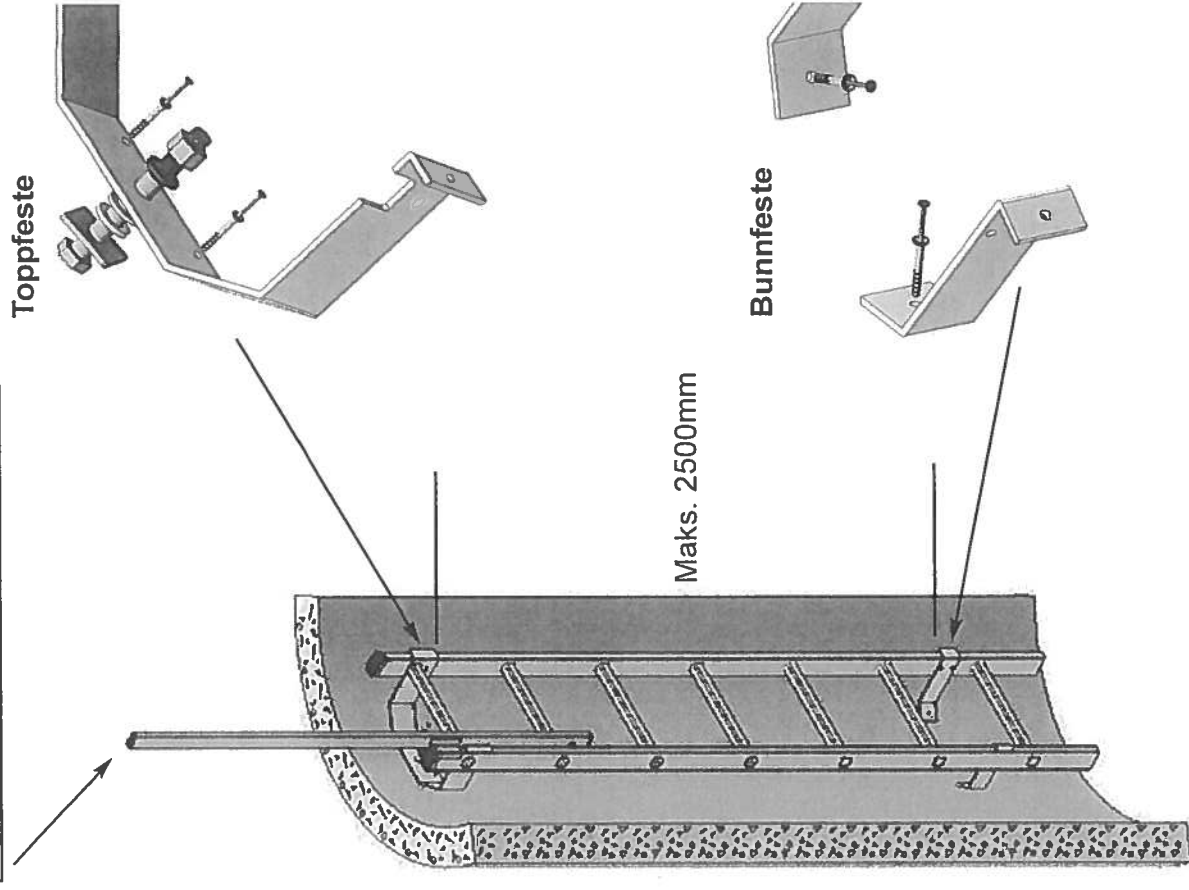
Maks. klatrehøyde: se tabell under.

Varenr.	Antall trinn	Høyde mm	Varenr.	Antall trinn	Høyde mm
18-4604	4-trinn	1450	18-4609	9-trinn	2900
18-4605	5-trinn	1740	18-4610	10-trinn	3190
18-4606	6-trinn	2030	18-4612	12-trinn	3770 *
18-4607	7-trinn	2320	18-4614	14-trinn	4350 *
18-4608	8-trinn	2610	* 2 sett med bunnfester skal benyttes		

## Monteringspakken skal inneholde

- 1 stk. VZN Bolt M16 x 130mm    1 stk. VZN Mutter M16  
1 stk. VZN Firkantskive    1 stk. VZN Rundskive  
2 stk. Nylonskiver    6 stk. Spikerplugg

Ved inn- og utstigning av kum skal håndtak som stikker min. 1m over bakkenivå benyttes.



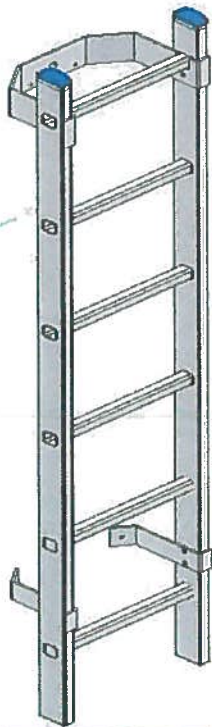


**Stige  
Senteret AS**

## KUMSTIGE

### Varenummer

18-4604	<input type="checkbox"/>
18-4605	<input type="checkbox"/>
18-4606	<input type="checkbox"/>
18-4607	<input type="checkbox"/>
18-4608	<input type="checkbox"/>
18-4609	<input type="checkbox"/>
18-4610	<input type="checkbox"/>
18-4612	<input type="checkbox"/>
18-4614	<input type="checkbox"/>



**MAKS. 150KG**

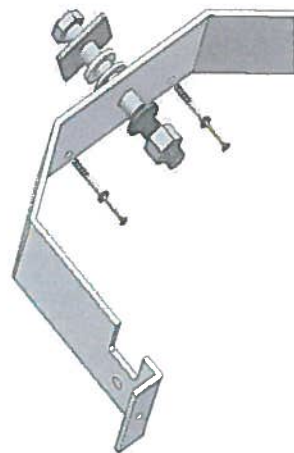
**SGS**

**EN 14396**

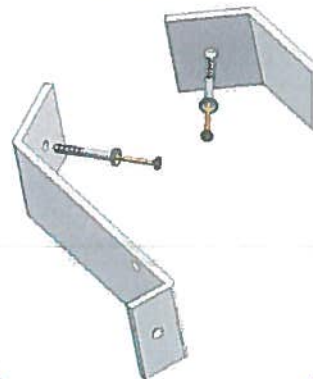
**NB!**

**LES MONTERINGS-  
ANVISNING**

### Toppfeste



### Bunnpfeste



Produsert av  
Strandhagan  
(shanghai)

Hardware co., ltd.  
[www.strandhagan.nc](http://www.strandhagan.nc)

Test Property	Test Method	Test Result
Leaning rung ladders	EN 131-1:1993 Clause 4.2	

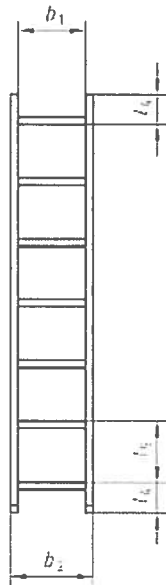


Figure 22 — One-piece leaning rung ladder

Dimensions in millimetres

	$b_1$	$b_2$	$e^A$	$l_4$	$l_5$	$\alpha$
min.	280	340	—	$0,5 l_5$	250	$65^\circ$
max.	—	—	45	$l_5 + 15$	300	$75^\circ$

<sup>A</sup> The dimension  $e$  is the horizontal distance between the rungs of two parallel parts of the ladder when the locking devices are in the using position.

Table 2: Test Result of EN 131 Part 2:1993

Test Property	Test Method	Test Principle & Requirements	Test Result
<b>Requirements</b>			
Materials	EN 131-2:1993 Clause 3.1	<p>3.1.1 Aluminium:</p> <ol style="list-style-type: none"> <li>All parts made of aluminium alloy shall have an elongation at rupture of minimum 5% when tested according to BS EN 10002-1:1990.</li> <li>All parts made of aluminium alloy shall have a thickness of at least 1.2 mm.</li> </ol> <p>3.1.2 Steel:</p> <ol style="list-style-type: none"> <li>The ratio between 0.2% yield-stress and ultimate strength shall be lower than 0.92.</li> <li>All parts made of steel shall have a thickness of at least 1mm.</li> </ol> <p>3.1.3 Plastic:</p>	

		<ol style="list-style-type: none"> <li>1. Glass fiber reinforced plastics shall be protected against penetration of water and dirt. The fibers shall be embedded.</li> <li>2. The Barcol hardness according to EN 59 shall be at least 35.</li> </ol>	
Design	EN 131-2:1993 Clause 3.2	<ol style="list-style-type: none"> <li>1. Shearing points shall be avoided;</li> <li>2. All connections shall be durable and have a strength corresponding to the strain;</li> <li>3. Screws and nuts shall be secured against self-acting slackening;</li> <li>4. Nails are allowed when their function is related to the production process;</li> <li>5. Welding of joints is permitted if welding procedures and welding personnel are suitable.</li> </ol>	
Surface finish	EN 131-2:1993 Clause 3.3	<ol style="list-style-type: none"> <li>1. Metal parts susceptible to corrosion shall be protected by means of a paint coating or other coating.</li> <li>2. Aluminium alloys are not susceptible to corrosion.</li> </ol>	
Rungs/steps	EN 131-2:1993 Clause 3.6	<ol style="list-style-type: none"> <li>1. Shall be made with antiskid walking surface. The contact surface of the coverings shall adhere firmly to the rungs or steps.</li> <li>2. Rungs and steps shall be firmly connected to the stiles. The rungs shall satisfy the tests according to EN 131-2:1993 Clause 4.6 and EN 131-2:1993 Clause 4.7.</li> </ol>	NT (The sample was damaged after EN131-2 Clause4.5)

Test Property	Test Method	Test Principle & Requirements	Test Result
Antiskid devices	EN 131-2:1993 Clause 3.8	Bottom-ends of the ladder shall be antiskid. The ends of wood stiles are considered to be antiskid. Such devices include, but are not limited to, safety shoes, spurs, spikes, conformable shoes, and flat or radiussed step feet.	
<b>Testing</b>			
Strength test of the ladder	EN 131-2:1993 Clause 4.2	Procedure: <ol style="list-style-type: none"> <li>1. A pre-load of 500N shall be applied for a duration of one minute;</li> <li>2. A test load of 1000N shall be applied for a duration of one minute;</li> <li>3. Measure the permanent deformation of the ladder.</li> </ol> Criterion: The permanent deformation shall not exceed 0.1% of the distance between the supports.	
Bending test of the ladder	EN 131-2:1993	Procedure: <ol style="list-style-type: none"> <li>1. A pre-load of 100N shall be applied for a duration of</li> </ol>	



	Clause 4.3	<p>one minute;</p> <p>2. A test load of 750N shall be applied vertically on the centre of the ladder for a duration of one minute;</p> <p>3. Measure the max deflection.</p> <p>Criterion: The max deflection <math>f_{max}</math> can be:</p> <p>1) - <math>f_{max} = 5 \cdot l^2 \cdot 10^{-6}</math> in mm (for ladders of length less or equal to 5 m)</p> <p>2) - <math>f_{max} = 0.043 \cdot l - 90</math> in mm (for ladders of length more than 5 m and less or equal to 12 m)</p> <p>3) - <math>f_{max} = 0.06 \cdot l - 294</math> in mm (for ladders of length more than 12 m). (<math>l</math>= the distance between the supports)</p>	
Lateral deflection test of the ladder	EN 131-2:1993 Clause 4.4	<p>Procedure:</p> <p>1. A pre-load of 100N shall be applied for a duration of one minute;</p> <p>2. A test load of 250N shall be applied to the lower stile equidistant from the supports;</p> <p>3. The deflection is measured equidistant from the supports.</p> <p>Criterion: The max permissible deflection can be 0.005l in mm. (<math>l</math>= the distance between the supports)</p>	

Test Property	Test Method	Test Principle & Requirements	Test Result
Test method of the bottom stile ends	EN 131-2:1993 Clause 4.5	<p>Procedure:</p> <p>1. A vertical force <math>F</math> of 900N is placed in the middle of the upper stile and is maintained for one minute;</p> <p>2. The permanent deflection after removal of the test load is reported;</p> <p>3. Repeated the lower stile;</p> <p>4. The test shall also be performed at supporting legs.</p> <p>Criterion: The permanent deflection must not exceed 2 mm. Neither fractures nor visible cracks are allowed.</p>	
Bending test of the rungs / steps / platform	EN 131-2:1993 Clause 4.6	<p>Procedure:</p> <p>1. A pre-load of 200N shall be applied for the duration of one minute;</p> <p>2. A test load <math>F</math> of 2600N shall be applied vertically on the mid-point of the weakest rung or step of any design.</p> <p>Criterion: The maximum permanent deformation shall be 0.5% of the inner width.</p>	

Torsion test of rungs and steps	EN 131-2:1993 Clause 4.7	<p>Procedure:</p> <ol style="list-style-type: none"> <li>1. A torque M of 50 N·m shall be applied on the mid-point of the rung or step;</li> <li>2. The torque shall be applied alternately 10 times in clockwise and 10 times in counter-clockwise direction for a period of 10s each.</li> </ol> <p>Criterion: There shall be no relative movement in the connection between stile and rung/step. The permanent deformation shall be <math>\pm 1^\circ</math> at maximum.</p>	
Marking	EN 131-2:1993 Clause 5	<p>The marking shall be durable and contain the following:</p> <ol style="list-style-type: none"> <li>1. name of the manufacturer or supplier;</li> <li>2. type of the ladder;</li> <li>3. year and month of manufacture or serial number;</li> <li>4. indication of inclination for ladders where this is not obvious because of their construction or design;</li> <li>5. maximum permissible load.</li> </ol>	NT