

## **Solution for Toys and Swings Laboratory Testing**

### **Item 01:**

#### **TW-404 Swings and Activity Toys Stability Tester-Horizontal Thrust Tester**



This instrument is used to test the stability performance for activity toys and swings.

Principle: A horizontal force is applied at the top of the toy to simulate a child climbing on the toy, observe whether the toy tips over.

A horizontal force is simultaneously applied at each suspension point to simulate the horizontal forces created by pendulum effect, observe whether the toy tips over.

Standards: IS9873-4, ISO 8124-4 6.1.2 Stability of activity toys with a free height of fall of more than 600 mm (see 4.5.3);

ISO 8124-4 6.1.2 6.1.4 Stability of swings and other activity toys with crossbeams (see 4.7.1)

**EN71-8 6.2.4 Stability of swings and other activity toys with crossbeams**

#### **Specification:**

Force capacity: 3kN

Force loading direction: horizontal

Force loading actuator: four stations

Force accuracy: dynamic  $\pm 5\%$

Force resolution: 1/1000

Loading strokes: 28cm

Force loading point height: 30~180cm

Test speed: 0~500mm/min adjustable

Rise and up speed: 800mm/min

Time: 0~9999 adjustable

Force control: closed-loop control

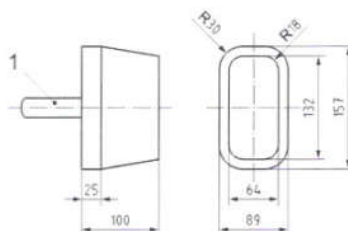
Motion: Servomotor  
 Control: PC+ professional test software  
 Dimension (WxDxH): 280x120x240cm  
 Weight: ≈650Kg  
 Power: 1 ∅ AC 220V 50Hz 3A

**Item 02:  
 TW-248C EN Head Probe C**



BS EN 71-8:2011  
 EN 71-8:2011 (E)

Dimensions in millimetres



**Key**

1 handle

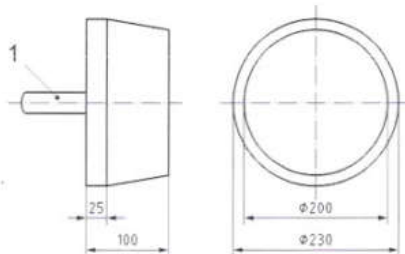
NOTE Unless stated otherwise, tolerances on measurements are ± 1 mm for dimensions and ± 1° for angles.

**Conforms to EN71-8 6.5 Test for head and neck entrapment**

**Item 03:  
 TW-249 EN Head Probe D**



Dimensions in millimetres



**Key**

1 handle

NOTE Unless stated otherwise, tolerances on measurements are ± 1 mm.

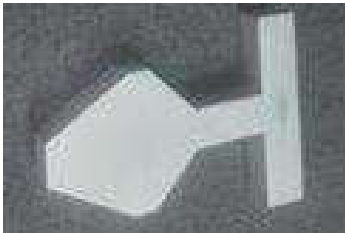
Figure 18 — Probe D (large head) for assessment of completely bound openings

**Conforms to EN71-8 6.5 Test for head and neck entrapment**

**Item 04:**  
**Test Template E**



Standard: EN71-8 6.5.2.2



6.5.2 Head and neck entrapment in partially bound and V-shaped openings (see 4.3.1 d))

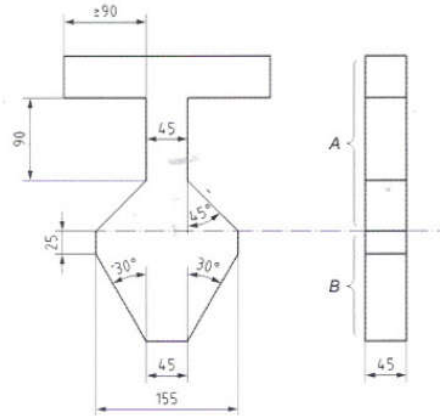
6.5.2.1 Principle

A test template is used for assessing partially bound and V-shaped openings for head and neck *entrapment*.

6.5.2.2 Apparatus

Test template made of any material and with dimensions as given in Figure 19.

Dimensions in millimetres



**Item 05:**  
**TW-403 Dynamic strength Test Machine**



This apparatus is used for dynamic testing of barriers and handrails

When tested in accordance with 6.3, no part of the barrier or handrail shall collapse, such that the toy does not comply with the relevant requirements of this part of ISO 8124.

Principle: A sudden horizontal impact stress is applied to the barrier or handrail, through a pad, by a falling load.

Place and secure the pad to the top of the barrier or handrail at the most onerous position and without causing any damage to the toy. Attach the free end of the rope to the pad.

Arrange the rope and the pulley so that the load hangs freely. Raise the load vertically 125 mm  $\pm$  10 mm and let it drop freely (this will give an impact energy of approximately 30 J). Within 10 s, remove all tension from the barrier.

Size: 500×500×2500mm

Weight: 25 kg  $\pm$  1 kg

Impact height: 125mm $\pm$ 10mm

Impact way: free drop

Impact energy: 30J

Sample height: 90cm~240cm

Control: pulley control

Size(WxDxH) 56x85x254cm

Weight:  $\approx$ 140Kg

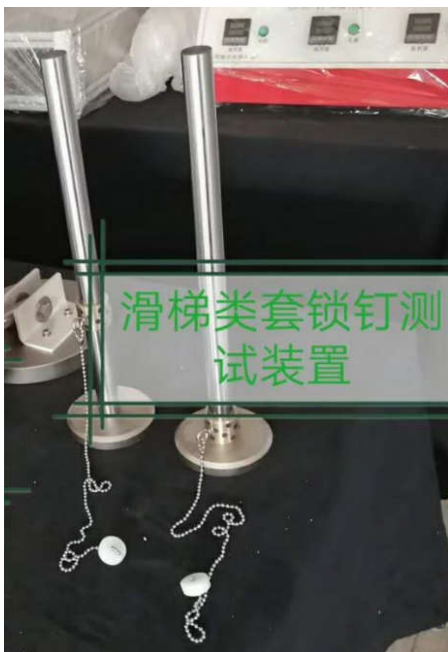
Gas source:  $\geq$ 6kgf/cm<sup>2</sup>

Power: 1  $\phi$  AC 220V 50Hz 3A

**Standard: EN71-8 6.4 Dynamic strength of barriers and handrails ;ISO 8124-4 6.3 Dynamic strength of barriers and handrails (see 4.2)**

#### Item 06:

#### EN71-8 Toggle Test Device



Material: 304 stainless steel, stainless steel chain, wearing rope for metal, toggles nylon line

Pole 400mm

Toggle diameter 25 $\pm$ 0.5mm

Base diameter 100mm

Standard: EN71-8 Clause No.6.6.2 Figure 22; ISO8124-4 Clause No.6.6.2

**Item 07:**  
**YYT058 Typical Load Fixture**



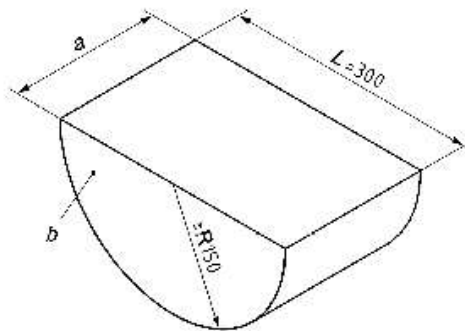
Standard: EN71-8:2011 clause 4.6.5

Radius of load Fixture  $\geq 150$

Width of the load Fixture  $\geq 30$

Mass 12kg $\pm$ 0.1kg

Dimensions in millimetres



**Key**

- a* dimension shall be not less than to the depth of the swing element
- b* mass of the load fixture shall be 12 kg
- R* radius of the load fixture
- L* width of the load fixture

**Figure 7 — Typical load fixture for a flexible swing element**

Item 08:

YYT059 Toy seat Angle meter



Measurements of the minimum angle between the sliding section and the run-out section on slides  
 Material:304 stainless steel;  
 Standard: EN71-8 :2011clause No. 6.7.2 Figure 25

Dimensions in millimetres

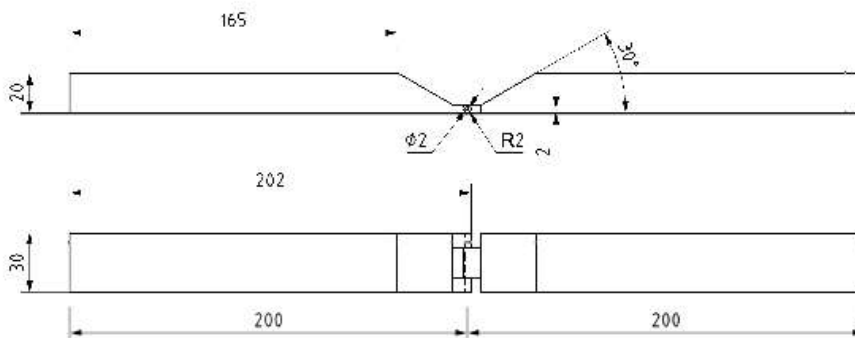


Figure 25 — Inclination device

**Item 09:**

**TW-268 200KG Static Strength Test Load**



200kg $\pm$ 10kg

EN71-8 Clause No.6.3.2

ISO8124-4 clause No. 6.2.2.2

**Item 10:**

**TW-268 66KG Test Load**



66KG $\pm$ 3KG

EN71-8 Clause No.6.3.2.2

ISO8124-4 Clause No.6.2.2.2

**Item 11:**

**TW-406 Impact Head from Swing Elements (without Accelerometer)**



Test mass, consisting of an aluminum sphere or semi-sphere of radius  $80 \text{ mm} \pm 3 \text{ mm}$ , and a total mass

(including accelerometer) of  $4,6 \text{ kg} \pm 0,05 \text{ kg}$ . The impacting part between the surface struck and the accelerometer shall be homogeneous and free from voids. Cables connected to the accelerometer shall be placed in such a way that the effect on the mass of the test mass is minimized

ISO8124-4 clause No.6.4.2

EN71-8 clause No.6.9.2

**Item 12:**

**TW-407 EN71-8 Rope Diameter Device**



Device to measure ropes with a nominal diameter of 10mm

Diameter 10mm (-0.5mm)

Raudis 0.5mm

Roughness 3.2

Weight 10kg

Standard EN71-8 Clause No. 6.8



**Some of our strategic partners as follow:**

1. Shenzheng SGS-CSTC Standards Technical Services Co., Ltd (Physics Lab)
2. Qingdao SGS-CSTC Standards Technical Services Co., Ltd (Physics Lab)
3. Guangzhou SGS (Physics Lab)
4. SGS Vietnam (Physics Lab)
5. SGS Korea (Physics Lab)
6. SGS Mexico (Physics Lab)
7. SGS HK (Physics Lab)
8. Shenzhen Academy of Metrology & Quality Inspection (Physics Lab)
14. Consumer Testing Technology Co., Ltd (CTT)
15. Accurate Technology Co., Ltd (ATC)
16. NS Technology Co., Ltd (NST)
17. BACL Bay Area Compliance Laboratories Corp.(BACL)
18. TUV Rheinland (Shenzhen) Co., Ltd.
19. Lctech (DongGuan) Testing Service Co., Ltd
20. HUST Manufacturing Engineering Institute
25. COOMO
26. Dongguan CACAR Kitchen
27. Shenzhen Airland Furniture Ltd.
28. BOCK Germany (Physics Lab)
29. Intertek China
30. SGS Pakistan (Private) Limited
31. PT SGS INDONESIA
32. TUV RHEINLAND VIETNAM CO.,LTD TUV
33. TUV Rheinland of North America Softlines
34. API Lab Testing Ltd
35. Cotecna Inspection Hong Kong Limited (Toys Testing Lab)
36. Applus (Shanghai) Quality Inspection Co., Ltd (EN71 Toys Testing Lab)

### Company Profile

**Dongguan Hust Tony Instruments(HTI)** is located in high & new tech development zone,Songshan Lake, Dongguan City.Also **Tony International (HK) Co.,Ltd** is our private-owned cooperation in HK. By supporting from Mechanical CNC and Software R&D core team of DG-HUST Manufacturing engineering institute . HTI specializes in producing and R&D for furniture testing machine,textile testing machine,toys testing equipment, Vehicle Testing Equipment. Continue the advanced design technology and concept, excellent technology of producing and outstanding system of quality management, HTI aims at "manufacture carefully, service by heart" ,devoting the best products, counseling and service to schools, manufacturing enterprise,and third party testing industry.



Up to today HIT products spread to countrywide users.We take pride in having a long list of satisfied customers, who always look up to us for their various requirements. Most of our customers are satisfied from our products and services and as a result of which, we are getting repeat orders. Some of our important customers, include:

SGS in France,SGS in Vietnam, SGS in China,SGS in Korea,Intertek in China,SAT in China,BACL in Shenzhen, NSF in Shanghai, ITS,BV,TUV etc

The quality proves value, the effort brings success  
What you concerning is we are struggling all the time.....

