[ST 2012, 2nd Revision]

2.11 Test methods for rubber pacifiers

2.11.1 Material test

2.11.1.1 Cadmium and lead

Preparation of test solutions

[For a rubber pacifier other than silicone rubber pacifier]

Put 1 gram of the sample in an evaporating dish made of platinum, quartz or heat-resisting glass, add 2 ml of sulfuric acid to it, and heat it gradually till the sulfuric acid almost stops emitting white smoke and the sample is almost carbonized. Then, heat the sample in an electric oven at approximately 450ºC to reduce it to ash. In order to reduce the content of the evaporating dish to ash completely, repeat adding sulfuric acid and heating it. Add 5 ml of hydrochloric acid (1-2) to the residue, mix them and subject the residue to evaporation to dryness on a water bath. After cooling the residue, dissolve it in 20 ml of 0.1 mol/l nitric acid. If insoluble matter is contained in the residue, filter it out to obtain test solution.

[For a silicone rubber pacifier]

Cut the sample into pieces. Weigh 0.5g of them and put them into the crucible made of platinum or nickel. Add 5g of sodium hydroxide and 2g of boric acid to them. Mix them. Heat it gradually by a gas burner at the temperature where the content in the crucible melts. Stop heating immediately after the sample has melted completely. Leave it to cool at room temperature.

Put approximately 75ml of hot water and the crucible in a beaker. Heat them accordingly till any solid residue in the crucible melts, while shaking them. While washing the crucible with small amount of water, remove the crucible. Pour the solution little by little into a flask with ground-in stopper which contains 15ml of conc. nitric acid, while stirring them. Leave it overnight at room temperature. Adjust its pH at 3.5 by adding 5mol/l ammonium acetate reagent solution. Inject the pH adjusted solution into a “chelating resin mini-column (500mg).” (The chelating resin mini-column has been prepared to be run off by “5ml of methanol”, “5ml of 0.1mol/l nitric acid” and “10ml of water” respectively.)

After running 10ml of 1mol/l ammonium acetate reagent solution and 10ml of water through the chelating resin mini-column, inject 0.1mol/l nitric acid to obtain 10ml solution as a test solution.

Test

Subject these test solutions to cadmium and lead tests by the atomic absorption photometric method or inductively coupled plasma luminous intensity measurement method. The test solutions must meet the requirements specified in 1.10.

As the standard solutions, use 10 ml of standard cadmium solution added with 0.1 mol/l nitric acid to obtain 100 ml solution and 10 ml of standard lead solution added with 0.1 mol/l nitric acid to obtain 100 ml of solution. The requirements are that the amount of each of cadmium and lead in the test solutions be not more than 0.5μg/ml, or 10μg/g in terms of the samples.

Supplementary provision：

This revision is put into effect for applications on and after June 29, 2013.

[ST 2012, 3nd Revision]

4.15 Stability and overload requirements

4.15.1 Stability of ride-on toys and seats

The requirements in 4.15.1.1 to 4.15.1.3 apply to ride-on toys and stationary toys with seats, such as play furniture intended for children under 60 months. Ride-on toys of spherical, cylindrical or other shapes, which do not normally have a stable base (for example toy bicycles and similar toys) are not covered by these requirements. Rocking toys (e.g. rocking horses) are covered by these requirements.

The requirement in 4.15.1.4 applies to toys designed to support all or part of the mass of a child except for ride-on toys and stationary toys with seats, which are intended for children under 60 months. Inflatable vinyl toys intended to be used indoors are not subjected to this requirement.

4.15.1.1 Sideways stability, feet available for stabilization (kicking wheeled ride-on toys, etc.)

Ride-on toys and stationary toys with seats, where the height of the seat from the ground is 27cm or more and the feet and/or legs of the child are unrestricted in their sideways motion and thus are available for stabilization, shall not tip over when tested in accordance with 5.12.2 (stability test, feet available for stabilization).

(See Reference, article 25)

4.15.1.2 Sideways stability, feet unavailable for stabilization (electric ride-on toys, rocking horses, etc.)

Ride-on toys and stationary toys with seats, where the feet and/or legs of the child are restricted in their sideways motion, such as by the enclosed sides of a toy automobile, shall not tip over when tested in accordance with 5.12.3 (stability test, feet unavailable for stabilization).

(See Reference, article 25)

4.15.1.3 Fore and aft stability

Ride-on toys and stationary toys with seats, where the rider cannot easily use his/her legs for stabilization, shall not tip forward or backward when tested in accordance with 5.12.4 (fore and aft stability test).

(See Reference, article 26)

4.15.1.4 Stability of toys designed to support all or part of the mass of a child except for ride-on toys and stationary toys with seats

Stability of toys designed to support all or part of the mass of a child except for ride-on toys and stationary toys with seats (slides, climbing frames, seesaw, etc.) shall

not tip over when tested in accordance with 5.12.4A (stability test of toys designed to support all or part of the mass of a child except for ride-on toys and stationary toys with seats).

4.15.2 Overload requirements for ride-on toys and seats

Ride-on toys, stationary toys with seats and other toys designed to support all or part of the mass of a child (slides, climbing frames, seesaw, etc.) shall not collapse when tested in accordance with 5.12.5 (overload test for ride-on toys and seats) and 5.22.4 (dynamic strength test for wheeled ride-on toys).

Manufacturers are recommended to consider the strength of the seat and seat pillar under dynamic conditions.

(See Reference, article 27)

4.23 Acoustic requirements

(Snip)

The requirements in this subclause do not apply to:

(Snip)

– sound emitted from earphones/headphones.

– additional sound downloaded through internet after the purchase of a toy.

【test method】

5.12 Stability and overload tests (See 4.15.)

(Snip)

5.12.4 Fore and aft stability test (See 4.15.1.3.)

Ride-on toys shall be tested with the steering mechanism, if any, in the position where the toy is most likely to tip.

For rocking horses, displace the toy to the limit of its bow.

Place the toy on a slope of a smooth surface inclined $(15\ ^{+0.5}_{0.0})°$ to the horizontal plane. Test the toy facing both up and down the slope.

Load the toy as specified in 5.12.2.

Observe whether the toy tips over within 1 min after application of the load.

5.12.4A Stability test of toys designed to support all or part of the mass of a child except for ride-on toys and stationary toys with seats (See 4.15.1.4.)

Place the toy designed to support all or part of the mass of a child except for ride-on toys and stationary toys with seats (slides, climbing frames, seesaw, etc.) on a slope

of a smooth surface inclined 10° ± 1° to the horizontal plane. Load the toy, on its standing or sitting surface, with a mass of 50 kg ± 0.5 kg. Observe whether the toy tips over.

Supplementary provision：

This revision is put into effect for applications on and after November 1, 2013.