

Firm: Abstracta Ltd  
Monomark House  
27 Old Gloucester St  
London  
WC1N 3XX

Attention of: Walker

# Technical Services Report

Subject: Assessment of the determination of a small source of ignition on EVA floor coverings.  
Firm: Abstracta Ltd  
For the attention of: Walker  
Your ref: EVA Interlocking floor tiles  
Our ref: 64567-2/0543/FLO-O  
Date: 18<sup>th</sup> November 2005

## Conditions of Issue:

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Results given in this report refer only to the samples submitted for analysis and tested by SATRA. Comments are for guidance only and are not part of the reported results. All comments and interpretations are outside the scope of UKAS accreditation and are based on current SATRA knowledge.

A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in the report.

Tests marked † are not UKAS accredited

Report signed by: S P Ferry  
Floorcoverings Team Leader  
Floorcoverings Evaluation Centre  
On behalf of SATRA Technology Centre Ltd

# Technical Services Report

## EVA FLOOR INTERLOCKING FLOOR TILES SUBMITTED FOR ASSESSMENT AGAINST THE RELEVANT REQUIREMENTS STIPULATED IN EN71

As requested we have assessed the EVA floor tiles submitted against the requirements of EN 71 that it is felt are applicable to the product submitted, as detailed below:

### SAMPLE SUBMITTED

Reference: Softfloor  
 Description: EVA Interlocking floor tiles  
 Colour: Black, Blue, Green and Red samples submitted  
 Intended application: Domestic and Commercial applications  
 Date received: 28<sup>th</sup> October 2005  
 Conditioning commenced: 1<sup>st</sup> November 2005  
 Testing commenced: 3<sup>rd</sup> November 2005  
 Testing completed: 17<sup>th</sup> November 2005  
 Testing conducted by: John Hubbard

### TESTS CARRIED OUT

- EN 71 Part 1 2001. (Including amendments A1: 2001, A2: 2002, A4: 2004, A5: 2000, A6: 2002, A7: 2002, A8: 2003, A9: 2004, A10: 2004 and A11: 2004) Safety of toys – Mechanical and Physical properties (Testing was carried out on the black sample only).
- EN 71 Part 3: 1994 Safety of toys – Specification for migration of certain elements (testing conducted on all samples).

### RESULTS

#### EN 71 Part 3: 1994 Safety of toys – Specification for migration of certain elements

| Component tested | Element |     |      |     |     |     |     |      | Pass/ Fail |
|------------------|---------|-----|------|-----|-----|-----|-----|------|------------|
|                  | Sb      | As  | Ba   | Cd  | Cr  | Pb  | Hg  | Se   |            |
| Blue             | < 5     | < 5 | < 50 | < 5 | < 5 | < 5 | < 5 | < 50 | Pass       |
| Red              | < 5     | < 5 | < 50 | < 5 | < 5 | < 5 | < 5 | < 50 | Pass       |
| Green            | < 5     | < 5 | < 50 | < 5 | < 5 | < 5 | < 5 | < 50 | Pass       |

### Requirements

| Limits of element migration from toy materials |    |    |      |    |    |    |    |     |  |
|--|----|----|------|----|----|----|----|-----|--|
| Element  | Sb | As | Ba   | Cd | Cr | Pb | Hg | Se  |  |
| Maximum migrated element in mg/kg toy material | 60 | 25 | 1000 | 75 | 60 | 90 | 60 | 500 | Any toy material given in clause 1 except for:<br>- Modelling clay<br>- Finger paint |

#### Key:

Sb – Antimony      As – Arsenic      Ba – Barium      Cd – Cadmium  
 Cr – Chromium      Pb – Lead      Hg – Mercury      Se – Selenium

Firm: Abstracta Ltd  
 CQ: 64567-2/0543/FLO-O  
 Date: 18<sup>th</sup> November 2005

(Page 2 of 10)

Signed:





# Technical Services Report

**EN 71 Part 1 2001. (Including amendments A1: 2001, A2: 2002, A4: 2004, A5: 2000, A6: 2002, A7: 2002, A8: 2003, A9: 2004, A10: 2004 and A11: 2004) Safety of toys – Mechanical and Physical properties**

| EN71 Part 1: 1998 clause 4 General requirements  | Results  | Pass/Fail    |
|--|--|--------------|
| <p>4.1 Material.<br/>Toys and material used in toys shall be visually clean and free from infestation. The material is assessed visually by the unaided eye rather than under magnification</p>  | Items examined visually, no sign of infestation present in any of the components used in the construction of the products.       | Pass         |
| <p>4.2 Assembly<br/>If a toy is intended to be assembly by a child, the requirements in this part of EN71 apply to each unit made available to the child and to the assembled toy. The requirements for the assembled toy do not apply to toys where the assembling provides a significant part of the play value of the toy.<br/>If a toy is intended to be assembled by an adult, the requirements apply to the assembled toy.<br/>Toys intended to be assembled by an adult shall be accompanied by detailed instructions if appropriate. The instructions shall indicate if it is necessary that an adult assembles the toy or that the proper assembly is checked by an adult before use.</p> | The item is intended to be assembled before use, however no assembly instructions were submitted with the product – Not assessed | Not assessed |
| <p>4.3 Flexible plastic sheeting<br/>Toys with flexible plastic sheeting shall conform to the following requirements –</p> <p>a) Sheets without any backing and of an area greater than 100mmx 100mm when tested according to 8.26.1 (plastic sheeting thickness) shall have an average thickness of 0.038mm or more</p>   | Not applicable   | N/A          |
| <p>4.4 Toy bags<br/>Toy bags with an opening perimeter of greater than 380mm having a drawstring as a means of closure shall either:</p> <p>a) be made of material permeable to air; or<br/>b) comply with the requirements given in 4.14.2 a)</p>   | Not applicable   | N/A          |
| 4.5 Glass  | Not applicable   | N/A          |
| 4.6 Expanding materials  | Not applicable   | N/A          |
| <p>4.7 Edges<br/>Accessible edges shall not present an unreasonable risk of injury.</p> <p>a) Edges of metal or glass on toys are considered as potentially hazardous sharp edges if they are sharp as determined according to 8.11 (sharp edges). If the edges fail the test, they shall then be assessed to determine whether they present an unreasonable risk of injury taking into account the foreseeable use of the toy. Regardless of the manner in which the edges are finished, they are subject to being tested according to 8.11</p>   | Not applicable   | N/A          |
| 4.8 Points and wires   | No points or wires present   | Pass         |
| 4.9 Protruding parts   | None present   | Pass         |

Firm: Abstracta Ltd  
CQ: 64567-2/0543/FLO-O  
Date: 18<sup>th</sup> November 2005

(Page 3 of 10)

Signed:



# Technical Services Report

|  |                |     |
|--|----------------|-----|
| 4.10 Parts moving against each other   | Not applicable | N/A |
| 4.11 Mouth – actuated toys   | Not applicable | N/A |
| 4.12 Balloons  | Not applicable | N/A |
| 4.13 Cords of toy kites and other flying toys  | Not applicable | N/A |
| 4.14 Enclosures<br>Toys which a child can enter<br>4.14.2 a) Masks and helmets that fully enclose the head and are made of impermeable materials shall provide a total ventilation area of 1300mm <sup>2</sup> minimum through at least two holes at least 150mm apart or through any equivalent single ventilation area   | Not applicable | N/A |
| 4.15 Toys intended to bear the mass of a child<br>4.15.5 Toys not propelled by a child<br>Toys not propelled by a child but designed to bear the mass of a child shall conform to the following requirements:<br>a) Static strength<br>b) Stability<br>c) Openings in the frame<br>d) The need to carry out checks and maintenance of the main parts from time to time shall be drawn to the attention of the user | Not applicable | N/A |
| 4.16 Heavy immobile toys   | Not applicable | N/A |
| 4.17 Projectiles   | Not applicable | N/A |
| 4.18 Aquatic toys  | Not applicable | N/A |
| 4.19 Percussion caps specifically designed for use in toys   | Not applicable | N/A |
| 4.20 Acoustics   | Not applicable | N/A |
| 4.21 Toys containing a heat source   | Not applicable | N/A |



# Technical Services Report

| EN71 Part 1: 1998 clause 5 Toys intended for children under 36 months   | Results  | Pass/Fail   |
|---|--|---|
| <p>5.1 General requirements. The general requirements shall be as follows:</p> <p>a) Toys and removable components of toys shall not, whatever their position, fit entirely within the cylinder specified.</p> <p>b) When tested according to <b>8.3</b> (torque test) , <b>8.4</b> (tension test, general). <b>8.5</b> ( drop test), <b>8.7</b> (impact test) and <b>8.8</b> (compression test), toys shall not produce any parts which, whatever their position fit entirely in the cylinder specified in <b>8.2</b>, or exhibit accessible sharp edges. (<b>8.11</b>) or accessible sharp points (<b>8.12</b>). and toys with springs shall still conform to the requirements in (<b>4.10.4</b>) (springs).</p> <p>c) Metal points and wires with a cross section of 2mm or less and that do not necessarily present a sharp point according to <b>8.12</b>, are considered to be potentially hazardous sharp points. They shall therefore be assessed to determine if they present an unreasonable risk of injury taking into account the foreseeable use of the toy.</p> <p>d) Large and bulky toys shall be tested according to item b) above with the exclusion of <b>8.5</b> (drop test) and with the inclusion of a test according to <b>8.6</b> (tip over test). The requirement in e) does not apply to large and bulky toys and books and other items of paper and paperboard.</p> <p>e) Glued wooded toys and toys with glued on plastic decals shall be subject to <b>8.9</b> (soaking test) before being tested according to b) above. Flakes of paint that have come loose from painted toys are exempt from being tested according to <b>8.2</b> (small parts cylinder). Thick surface coatings such as varnish are not exempt.</p> <p>f) The surfaces and accessible edges of toys shall be free from splinters.</p> <p>g) The casing of toys intended for children too young to sit up unaided shall not crack when tested according to b). A crack may be accepted if it manifestly does not create a hazard.</p> <p>h) For foam toys and toys containing accessible foam components, when tested according <b>8.3</b> (torque test) and <b>8.4</b> (tension test general), clamps and test fixtures used to conduct the tests shall not damage the toy or component such as to affect the results.</p> | <p>No age range for the product was supplied.</p> <p>Item does not fit into small parts cylinder</p> <p>See table 1 below</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>See table 1 below</p> | <p>Pass</p> <p>Pass</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>Pass</p> |

# Technical Services Report

|  |                |     |
|--|----------------|-----|
| <p>5.2 Filling materials.<br/>Filling materials shall conform to the following requirements:</p> <p>a) Soft filling materials shall not contain any hard or sharp contaminants, such as metal particles, nails, needles or splinters.</p> <p>Soft filled toys containing small parts (e.g. rattling components, bells, shredded foam) or with filling materials from which pieces can be bitten or torn thereby producing small parts, which fit entirely into the cylinder specified in 8.2 shall have a covering such that, after being tested according to 8.4.2.2 (tension test, seams and materials), it shall not be possible to insert freely the front part of probe A, as specified in 8.10, through any one opening in the seam or cover material. An opening may be accepted if it manifestly does not create a hazard.</p> | Not applicable | N/A |
| 5.3 Adhesion of plastic sheeting   | Not applicable | N/A |
| <p>5.4 Cords on toys<br/>Cords on toys shall conform to the following requirements:</p> <p>a) cords on toys shall have a thickness of 1.5mm or more, when tested in accordance with 8.20</p> <p>b) The free length of cords on toys which include attachments, which can form a noose shall either:</p> <ul style="list-style-type: none"> <li>- Not exceed 220mm when stretched by a force of <math>25N \pm 2N</math> or</li> <li>- When subjected to a force of <math>25N \pm 2N</math> separate into parts not exceeding 220mm when stretched by a force of <math>25N \pm 2N</math>. It shall be possible to join the parts together after they have been separated without altering the characteristics of the joints.</li> </ul>  | Not applicable | N/A |
| 5.5 Liquid filled toys   | Not applicable | N/A |
| 5.6 Swings   | Not applicable | N/A |
| 5.7 Speed limitation of electrically driven toys   | Not applicable | N/A |
| 5.8 Glass and porcelain  | Not applicable | N/A |
| 5.9 Shape and size of certain toys   | Not applicable | N/A |
| 5.10 Toys comprising monofilament fibres   | Not applicable | N/A |

**Table 1 – clause 5.1 Torque, Tension, Drop and Impact test results**

| Sample                                     | Torque Test result       | Drop test result         | Impact test result       | Tension test             |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Black foam interlocking play surface piece | No damage to item - Pass | No damage to item - pass | No damage to item - pass | No damage to item - Pass |



# Technical Services Report

| EN71 Part 1: 1998 clause 6 Packaging   | Results      | Pass/Fail    |
|--|--------------|--------------|
| <p>The requirement in 6a) does not apply to the following:</p> <ul style="list-style-type: none"> <li>- shrunk on film packaging, which is normally destroyed when the packaging is opened by the user.</li> <li>- Bags made from perforated sheets which conform to the requirements in 4.3b).</li> </ul> <p>The packaging of toys shall conform to the following requirements.</p> <p>a) Bags made from flexible plastics, with an opening perimeter greater than 380mm used for external or internal packaging, shall have an average sheet thickness of not less than 0.038mm when tested in accordance with 8.26.1 (plastic sheeting, thickness)</p> <p>b) Bags made from flexible plastics with an opening perimeter of greater than 380mm shall not have a draw string or cord as a means of closing.</p> | Not supplied | Not assessed |

| EN71 Part 1: 1998 clause 7 Warnings and information for use.   | Results                     | Pass/Fail    |
|--|-----------------------------|--------------|
| <p>7.1 General</p> <p>For the European Union please note that:</p> <ul style="list-style-type: none"> <li>- toys must be accompanied by appropriate, clearly legible warnings in order to reduce inherent risks in their use as described in the essential safety requirements in European Council Directive 88/378/EEC of 3 May 1988 concerning the safety of toys (published in the Official Journal of The EC No L 187 of 16 July 1988)</li> <li>- The manufacturer or his authorised representative, or the importer into the community shall in a visible, easily legible and indelible form affix his name and or trade name and/or mark and address on the toy or on its packaging together with the CE marking as declaration of presumption of conformity with the essential safety requirements of the above directive.</li> </ul> <p>The legal requirements for the CE marking are given in European Council Directive 93/68/EEC of 22 July 1993.</p> | Not supplied – Not assessed | Not assessed |
| <p>7.2 Toys not intended for children under 36 months</p> <p>Toys which are not intended fro but might be dangerous for children under 36 months shall bear a warning, for example:</p> <p>“Not suitable for children under 36 months” together with a brief explanation of the specific hazard calling for this restriction.</p> <p>The age warning shall be clearly visible at the point of sale, shall appear on the product itself or the packaging</p>  | Not supplied – not assessed | Not assessed |
| 7.3 Latex balloons   | Not applicable              | N/A          |

# Technical Services Report

|   |                |     |
|---|----------------|-----|
| 7.4 Toys intended to bear the mass of a child<br>Slides, suspended swings and rings, trapezes, ropes and other similar toys attached to a crossbeam and other toys intended to bear the mass of a child shall be accompanied by instructions drawing attention to the need to carry out checks and maintenance of the main parts at regular intervals, and pointing out that if these checks are not carried out, the toy could overturn or cause a fall. Wherever practical, the instructions shall be affixed to the toy.<br>Instructions shall also be given as to the correct assembly of the toy, indicating those parts which can present dangers if it is not correctly assembled. Specific information regarding suitable ground surfaces shall be given. | Not applicable | N/A |
| 7.5 Aquatic toys  | Not applicable | N/A |
| 7.6 Functional toys   | Not applicable | N/A |
| 7.7 Functional sharp edges and points   | Not applicable | N/A |
| 7.8 Projectiles   | Not applicable | N/A |
| 7.9 Imitation protective masks and helmets  | Not applicable | N/A |
| 7.10 Toy kites  | Not applicable | N/A |
| 7.11 Roller skates and toy skateboards  | Not applicable | N/A |
| 7.12 Toys intended to be strung across a cradle, cot, or perambulator.  | Not applicable | N/A |
| 7.13 Liquid filled teethers   | Not applicable | N/A |
| 7.14 Percussion caps specifically designed for use in toys.   | Not applicable | N/A |
| 7.15 Acoustics  | Not applicable | N/A |
| 7.16 Toy bicycles   | Not applicable | N/A |
| 7.17 Toys intended to bear the mass of a child  | Not applicable | N/A |
| 7.18 Toys comprising monofilament fibres.   | Not applicable | N/A |


## CONCLUSIONS

The samples of Blue, green, red and black foam interlocking play surface pieces received by SATRA on the 28<sup>th</sup> October 2005 were assessed and found to meet with those requirements assessed.

It should be noted that clause 6 and 7 has not been assessed as packaging and labelling/user information for the product was not supplied

Report signed by: S P Ferry  
 Floorcoverings Team Leader  
 Floorcoverings Evaluation Centre  
 On behalf of SATRA Technology Centre Ltd

Firm: Abstracta Ltd  
 CQ: 64567-2/0543/FLO-O  
 Date: 18<sup>th</sup> November 2005

Signed:   




# Technical Services Report

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Delivery estimates are made in good faith and date from receipt of a written order and full information to enable us to proceed. While we make every effort to fulfil them, such estimates are subject to unforeseen events and if not maintained, cannot give rise to any claim. Offers "ex stock" are subject to prior sale.

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5. CLAIMS

Claims for errors, shortages etc should be notified within 10 days of date of receipt. In the event of goods damaged in transit, packing materials should be retained for examination; otherwise no liability can be accepted.

6. PAYMENT TERMS

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All goods manufactured by us are guaranteed both as regards material and workmanship. Any part returned carriage paid, within twelve months from date of supply and found defective, will be repaired or replaced at our option free of charge. We admit no liability for loss, damage or delay consequent on any defect in any goods supplied by us. Any goods supplied but not made by The Centre carry only the maker's guarantee.

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