

BS 5609

Label Durability for Marine and Extreme Environments



Independent testing service with expert advice and recommendations



Why test labels to BS 5609?

- ▶ Internationally-recognised standard covering suitability of goods-labelling for marine shipment
- ▶ Widely referred to when specifying an extremely durable label
- ▶ Compliance is a requirement for self-adhesive drum labels needing certification with:
 - Merchant Shipping Regulations
 - International Maritime Dangerous Goods (IMDG)
 - Globally Harmonized System of Classification (GHS) standards

Labels are typically used for identification, warning and instruction applied to drums containing chemicals.

BS 5609 is a specification for printed pressure-sensitive, adhesive-coated labels for marine use, including requirements for label base material. It sets out various durability criteria including adhesive performance, print permanence and abrasion resistance, stipulating minimum standards for labels to be used in "Marine Environments". [Find out more about BS 5609.](#)



Pira's specialist testing facilities and print expertise guarantee compliance and peace of mind

Pira offers a complete, independent BS 5609 testing service using specialist, purpose-built facilities. More importantly, our experts are here to guide you through the requirements and test results offering professional advice and recommendations. More details on the test process overleaf.



Assistance with all aspects of adhesive and label performance

Pira works with clients across the packaging, print and paper supply chains providing testing, technical solutions and advice. You can take advantage of our unique expertise-base and comprehensive range of ISO 17025 accredited testing facilities. We offer independent assistance on a wide range of issues. Services related to label and adhesive performance include:

- ▶ Adhesive performance
- ▶ Creep and heat resistance
- ▶ Environmental performance
- ▶ Marine immersion (BS 5609)
- ▶ Peel adhesion
- ▶ Product compatibility
- ▶ Setting rate
- ▶ Shear resistance
- ▶ Release properties
- ▶ Label adhesive tack



Find out how Pira can help

Maggie Carnegie

Principal Consultant, Pira International

Tel: +44(0) 01372 802158

E-mail: maggie.carnegie@pira-international.com

Web: www.pira-international.com/testing





BS 5609 Test Details

BS 5609 comprises four parts.

Sections 2 and 3 are key and detail the tests to be carried out on the base label material and printed labels respectively. Tests of the print method described in Section 3 can only be made on base labels that have already met the requirements of Section 2. Also, if a print method has been tested on Label A, it doesn't automatically follow that it will comply on Label B. For complete compliance it is necessary to validate specific combinations of ink and base label.



Section 2 tests

- ▶ Marine exposure of labels (carried out at our test site on the south coast of England).
- ▶ Dimensional stability under artificial weathering
- ▶ 48 hour peel adhesion to aluminium plates
- ▶ Peel adhesion after temperature cycling: 7 days at 60°C and 2 hours at 0°C
- ▶ Colour fastness: exposed to artificial salt spray and sunlight



Accelerated sunlight



Section 3 tests

- ▶ Print key effectiveness: resistance to print removal using adhesive tape
- ▶ Abrasion resistance: legibility and contrast after rolling in a mixture of sand and artificial sea water
- ▶ Permanence of print: colour fastness and residual contrast after exposure to artificial salt spray and sunlight



Pira marine immersion test rig



How can we help?

BS 5609 and label performance, please contact:

Maggie Carnegie

Principal Consultant, Pira International

Tel: +44(0) 01372 802158

E-mail: maggie.carnegie@pira-international.com



Print failure after abrasion

For all Pira testing and technical consulting services:

- ▶ Materials Testing and Specification
- ▶ Packaging Innovation and Development
- ▶ Distribution Testing for Packed Products
- ▶ Food Contact Services
- ▶ Dangerous Goods
- ▶ Environmental Testing

Visit: www.pira-international.com/testing

