



TRANSPORT SIMULATION TESTS

Transport

The word 'transport' is a familiar one. Manufacturers transport their products from A to B around the globe. The question is; what exactly are the variables that influence the product or packaging during this transport?

The world of transport relies on such information as vehicle type, handling, road type and distance covered, and warehouse storage. Unfortunately, not all of these factors can be eliminated. However, it is possible to protect and to design products in such a way to prevent them from sustaining damage during transport.

Our extensive experience in the field enables us to save 10 to 30% on costs related to packaging, transport, and damages for products and packaging before optimisation. The proper design of your product or packaging makes it possible to increase the shock and vibration performances without increasing the costs.

Transport shipments test

Many suppliers test their packaging during a so-called trial shipment. Products are verified for damage at the end of the shipment packaging. This is oftentimes an expensive and time-consuming method.

The results of 'identical' trial shipments may differ by a factor 2-3. Transport depends strongly on driver capabilities, road conditions, handling, humidity, temperature, and the driver's emotions at any given moment. Emotions affect the speed and style of the driver. Transport simulations in a test facility amount to half the cost of trial shipments. They are always identical and can be carried out quickly.



Recorder measuring vibration, shock, humidity etc. during transport

Data recorder and transport simulation tests

A transport route is measured several times. The analyzed data can be used directly for shaker control. The shaker can reproduce multiple transports from A to B accurately and reliably, making it possible to compare test results of the different packaging, products, and modifications.

Optimisation or improvement of packaging and products can be easily verified in a controlled manner based on a measured transport environment. S2T applies ASTM, IEC, ISO, or other standards when measured data is not available. S2T can compare measured data with these standards and select the most suitable ASTM, ISO, or standard providing the best fit. Your transport simulation also becomes an acceptance test.

Transport simulations (including climate controlled) allow designers and manufacturers to develop new packaging and products. Products and packaging arriving at their destination, guaranteed to be free of damage or to have an accepted and calculated level of damage.



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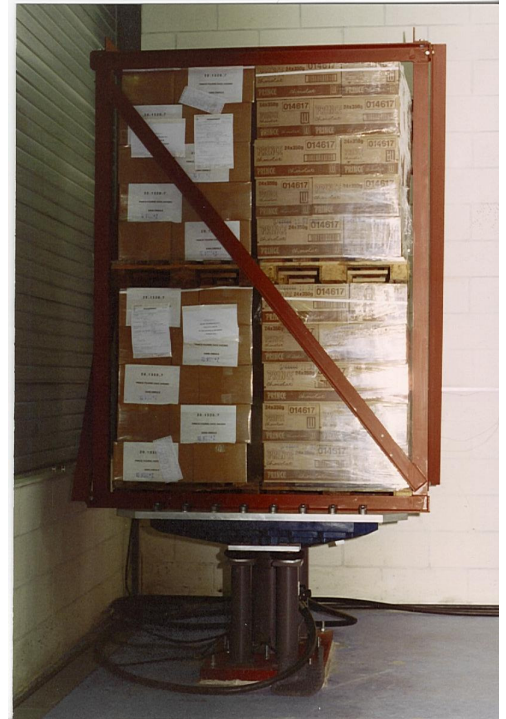


Case 1

A biscuit is a brittle product, vulnerable to breakage or other damages. To put a proper product on the market, a series of environmental measurements were carried out during various transports with a particular brand of biscuits in an existing and well-known packaging concept.

The data recorder registered the (random) vibration levels of shocks and impacts at fixed time intervals. The analysed data was used to control the S2T hydraulic shaker. The road conditions were simulated accurately, because the (acceptable) amount of broken biscuits and their locations in the stack were identical with the live transport. Convinced of the reliability of this simulation method, the decision was made to stop all trial shipments. A savings of more than 70% could be achieved on costs. Moreover, it shortened the duration of the development and verification of the packaging.

Because of this reliable method, new, alternative, and cheaper packaging can and will be developed and verified more easily. The transport simulation gives accurate and sufficient information necessary to make the appropriate decisions. The expected cost savings will amount several millions Euros annually.



Case 2

Plants and flowers have to endure a lot during transport. A series of transport simulations were carried out at 20°C on a large amount of plants and flowers. The S2T selected vibration level (in accordance with ASTM and equivalent ISO standards) compared well with the measured route running from the Netherlands deep into Germany.

After investigation, it appears that a certain type of (stress) hormone develops during the vibration tests. According to experts, this hormone results in similar damage to flowers and plants in freezing conditions. A transport simulation with a particular type of flowers, fastened differently in identical boxes, proved that the fastening of flowers also could result in serious damage, as was demonstrated by the plants. Based on this information, our customers are developing new methods to eliminate or minimize damages. This will reduce costs and provide a better-supplied product.

Case 3

S2T can also optimise your product and packaging against vibration and shock problems resulting from transport or other causes.

Your transports can be monitored at very low costs, and this will enable you to optimise your products and/or packaging in accordance with your environmental requirements. Based on the measurements, the most appropriate standard (ASTM, ISO, etc.) will be selected for the measured data.

Our extensive knowledge and experience enables us to save 10-30% on the costs for packaging, transportation, and damages of the products and packaging that have not been optimised yet. By creating the proper design for the product or packaging, one can increase the shock and vibration performances without increasing costs. Do we have your attention? S2T would be pleased to send you information about the possibilities we have to offer. You are also welcome to visit us for a demonstration or support.

S2T: YOUR DYNAMIC TEST CENTER FOR ALL YOUR TESTS



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