

Application Note:

Hand Abrasion Test on Promotional Products



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Promotional Products

Many may assume that the use of promotional giveaways for advertising and marketing is no longer useful in the digital age, yet promotional products have stood the test of time and remain an incredibly powerful marketing tool.

Promotional products can contribute toward positive brand association and help to make a brand more recognizable. Research from the British Promotional Merchandise Association demonstrates that promotional giveaways are kept an average of one to three years, which can contribute toward improved sales and business activities.

Quality of Promotional Products

Most promotional products are imprinted with a company name or logo. Regardless of the cost of the product, if the printing becomes unreadable the promotional product loses its value to the advertiser. Even worse, if the printing becomes badly worn, the poor quality of the printing on the branded merchandise may cause a negative association about the quality of the company's products. It's important that your promotional gifts represent your company well, and you can ensure this by testing the printed surface to see how it will withstand wear. As most promotional products are worn from touching by human hands, the TRIBOTOUCH hand abrasion simulator is the ideal choice for quality assurance.

Why Pens Make Good Promotional Products

For the marketing manager seeking a promotional item that is affordable, desirable, and useful, a pen is a good choice. Pens are used daily by many professionals and are frequently used to sign contracts, complete important documents, and travel in a briefcase or laptop bag with the client. Your company's logo is emblazoned on these often-used items, creating a continual reminder of your business.

Hand Abrasion Test with the TRIBOTOUCH

Damage to surfaces due to abrasion caused by human hand is a major reason for perceptions of poor quality. Fortunately, the potential for surface wear can be tested.

When we interact with objects around us, the sliding of our fingers against various surfaces is common. Biomechanically, when touching a surface the finger performs a mechanical strike followed by a push-slide motion. In addition to mechanical wear, substances on the skin, such as sweat, body oils, and/or consumer care products, can chemically react with the surface, promoting further degradation. This combination of both mechanical and chemical forces can be tested with the TRIBOTOUCH.

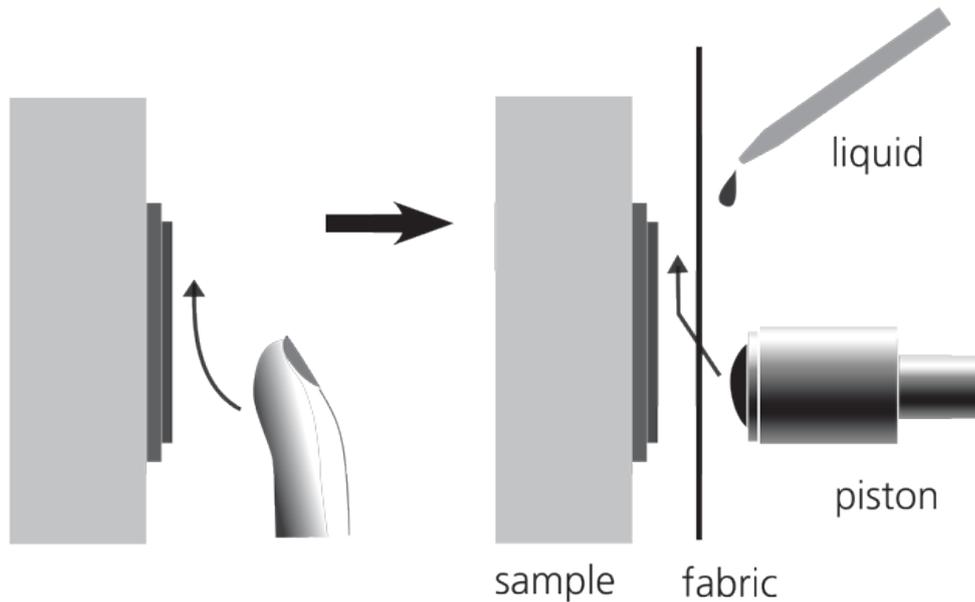


Figure 1: Principle of hand abrasion simulation

Test Sample: Printing of Company Logo on Pen

We used the TRIBOTOUCH hand abrasion simulator to test the durability of printing on a promotional pen. We have used typical parameters that could be expected in a pen's daily use. The results of the test provide information about the performance of the printing during the lifetime of this pen.



Figure 2: Promotional pen in unused condition

Parameter	Description
Piston	Silicone, Hardness 47±5 Shore A, Ø 20mm, Radius 20 mm
Load	3 N
Friction path	4 mm
Frequency	2 Hz
Total number of cycles	1'000
Inspection stops	Every 1'000 cycles
Test textile	Standard textil according to EN 60068-2-70
Fluid / Feed	Artificial Sweat according DIN 53160-2, 1ml every 500 cycles

Table 1: Test parameters

Results

After 1'000 cycles the printing was beginning to lighten, showing use.

After 3,000 cycles the printing was abraded and the logo was no longer readable.



Figure 3: Pen before the test



Figure 4: Pen after 1'000 cycles

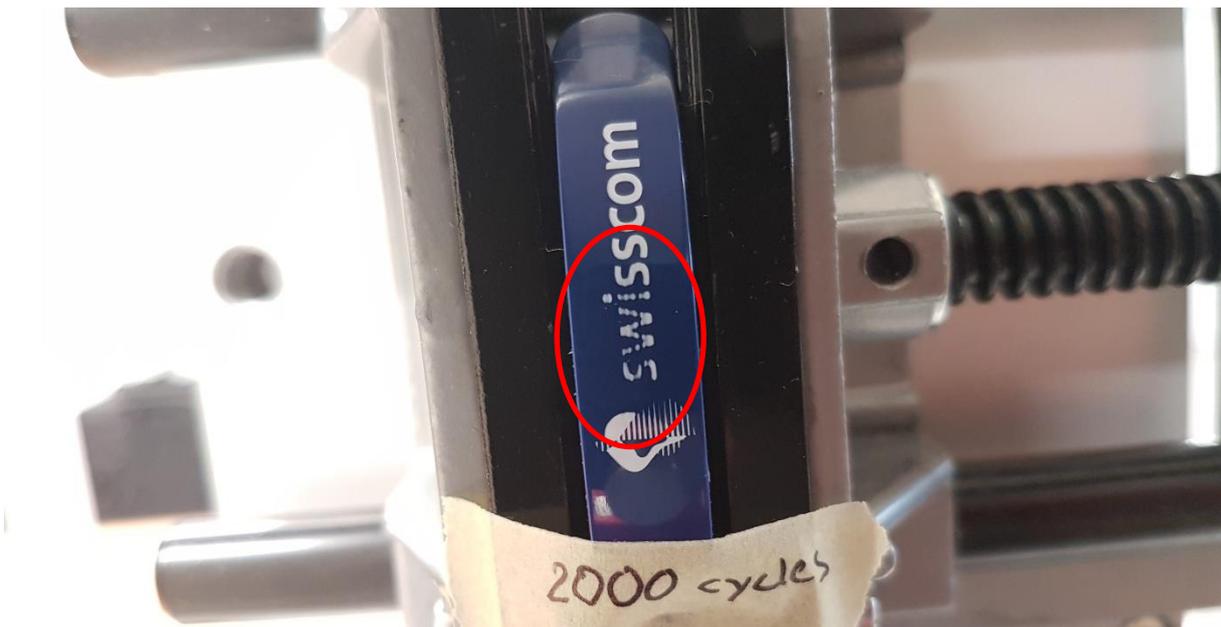


Figure 5: Pen after 2'000 cycles

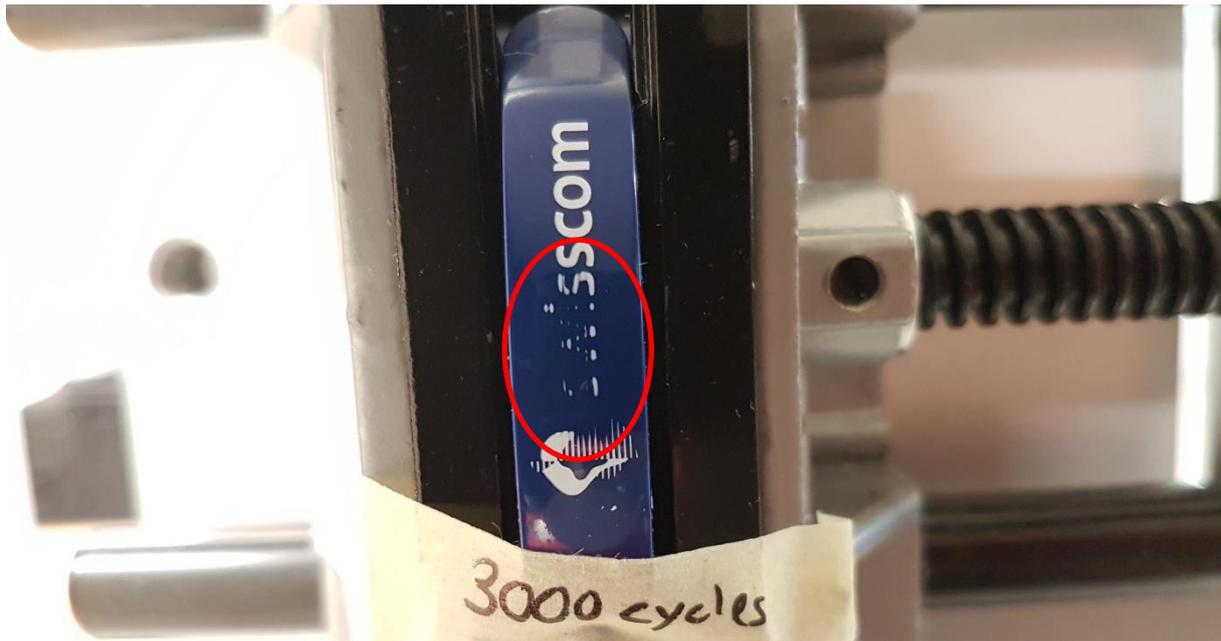


Figure 6: Pen after 3'000 cycles

Summary

The TRIBOTOUCH hand abrasion simulator allows us to test products, such as this promotional pen, in order to simulate real-life use and predict durability of the printed surface. TRIBOTOUCH testing on finished products or lab samples can be done to meet national and international specifications, as well as company standards.

The results of our test example show a realistic estimation of the lifetime of the printing on this pen and demonstrate the use of the TRIBOTOUCH hand abrasion simulator for quality assurance. Through such testing, we can be assured that the printed company logo will exceed the expected lifetime of the pen itself.



Figure 7: TRIBOTOUCH hand abrasion simulator