

Actual applications for HEIDON Tribogear instruments
(actual examples as implemented at Japanese manufacturers' labs and plants)

Customer's Problem	Test Method	Appropriate Device
Automotive		
Car wax is not smooth.	Test the effect of wax appliance on painted surfaces.	10, 14, 22, 32, 94
Automotive Interior parts are getting scratches easily.	Test surface characteristics of parts	18, 22
Noise through friction between seat and clothes.	Test surface characteristics of both parts.	14, 22, 32
Scratches on the dashboard.	Determine durability against scratches of plastic surface.	18, 22
Seat belt is slipping.	Measure friction between seat belt and clothes.	14, 22, 32
Tires wear out easily.	Measure friction and wear on tire rubber.	14, 32
Noise through friction between wipers and front glass.	Measure friction and wear on wiper rubber.	14, 20
Noise at hinge of door.	Measure friction and adhesive strength of solid lubrication agents.	14, 22
Distortion of back and side mirror glass.	Determine distortions of the inner part of the glass.	25W
Operating life of heat-resistant engine parts is short.	Test density of heat-resistant coating.	14, 2000
Electronics / Precision Instruments / Machinery		
Surface of cell phone is rubbed raw.	Test scratch resistance, friction, adhesive strength of overlay.	14, 22, 30, 32
Keyboard on cell phone gets wear scars easily..	Test scratch resistance, friction, adhesive strength of overlay.	14, 22, 30
Contact between magnetic material and card is weak.	Durability test of magnetic cards.	18, 22
Magnetic cards having a short life span.	Durability test of magnetic cards.	18, 22, 2000
Diffusion sheet of LCD panel gets scratches easily.	test friction and scratch resistance of film	18, 22, 2000
Liquid crystal film gets scratches easily.	test surface strength of liquid crystal film	18, 22, 2000
Need to get liquid crystal alignment uniform (even).	Test friction of alignment film.	18, 22, 2000
Electrical appliances get scratches easily.	Evaluate scratch resistance of outer plastic parts.	18, 22, 2000
The overlay of watches is peeling away.	Scratch test of solution and overlay, testing of friction and adhesive strength	18, 22, 2000
Increase adaptability of products to conveyance system	Friction tests of rolls	14, 32, 94
Paper gets stucked in the printer.	Evaluate cause of paper sticking by testing friction with rubber roller.	14, 32
Paper gets stucked in the copy machine.	Test friction between papers inside the cassette.	14, 22
Outer steel frame of copy machine gets scratches.	Test durability of overlay of outer part.	18, 22, 2000
ATM does not accept (insert) bills easily.	Test friction of paper rolls, test influence of extraneous matter on friction	14, 22, 32
Paper gets stucked through silkscreening (screenprinting).	Testing adhesion strength of silkprinting part.	14, 22, 32
Shutter can't be closed (stucks).	Characterization test of shutter base and driving part.	14, 22, 32
Lenses get scratches easily.	Test friction and adhesive strength of anti-reflection coating on lens	18, 22
Coating on films gets scratches and lacks density.	test friction and scratch resistance of film	18, 22, 2000
Pharmaceuticals / Cosmetics		
Foundation becomes clammy.	Test texture (soft feel) of foundation.	14, 22, 32, 33, 94
Need to evaluate smoothness (slipperiness) of foundation.	Test texture (soft feel) of foundation.	14, 22, 32, 33

Spread (elongation) of lip stick is bad.	Test spread and other characteristics of lip stick and cream.	14, 32, 33
Lip stick gets stucked and does not run smooth on skin.	Test spread and other characteristics of lip stick and cream.	14, 22, 32
When producing medicinal agents, powder gets inside the machine.	Test friction at powder casting.	14, 32
Manicure is peeling away.	Test peeling off behaviour.	18, 22
Hair does not get smooth after applying rinse.	Evaluation test of rinse and treatment.	14, 32
Need to evaluate smoothness (slipperiness) of hand cream.	Test spread and texture of hand cream.	14, 22, 32, 33, 94
Tooth brush wears out (rubs away).	Test durability and wear resistance.	14, 22, 32
Fiber products / textiles		
Inner and outer wear are clinging together.	Test friction and cling.	14, 22, 32
Need to evaluate haptics (soft feel) of clothes.	Test friction of cloth surface.	10, 14, 33
When starching clothes, the iron does not run smooth.	Evaluate smoothness of iron after starching.	14, 94
Socks are too smooth (lack friction).	Test properties of silk.	
Construction		
Flooring is slippery.	Test slipperiness of flooring in both wet and dry conditions.	14, 22, 32, 94
Bath tub floor is slippery.	Test slipperiness of bath tub or material.	10, 14, 22, 32, 94
Wall paper gets scratches.	Test adhesion strength of wall paper.	18, 22

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