HOHENSTEIN WEBINAR:
LET‘S TALK ABOUT SHOES

WHY IS IT USEFUL TO TEST
SHOES FOR HARMFUL SUBSTANCES
& FUNCTIONAL PERFOMANCE?

- Use the Q&A function for **QUESTIONS**
- We provide the **RECORDING**

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WELCOME!

SPEAKER

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AGENDA

1. Welcome
2. Why is it useful to test shoes for functional performance?
3. Possibility of product qualification
4. OEKO-TEX® product portfolio
5. OEKO-TEX® STANDARD 100 & LEATHER STANDARD
6. Certification & application procedure
7. Test criteria
8. OEKO-TEX® modular system
9. Certificate
10. Q&A

WHY IS IT USEFUL TO TEST SHOES FOR FUNCTIONAL PERFORMANCE?

WHY IS IT USEFUL TO TEST SHOES FOR FUNCTIONAL PERFORMANCE?

BRAND‘S POLICY:

- Internal Quality Standards for Customer Satisfaction

SYSTAINABILITY CLAIMS ON GLOBAL SCALE ASK FOR „LONGEVITY“

- European Union: GREEN DEAL is asking for long-living Textiles & Footwear Products

WHY IS IT USEFUL TO TEST SHOES FOR FUNCTIONAL PERFORMANCE?

PERFORMANCE & DURABILITY CRITERIA

- Occupational and safety footwear must carry the CE mark (Dir. 89/686/EEC).
- Other footwear may need to be tested for the following parameters:

- Uppers flex resistance
- Uppers bondability
- Uppers tear strength

- Outersoles flex resistance
- Outersoles abrasion resistance
- Outersoles bondability

<u>For specialist cold:</u>

- Outersoles water resistance
- Uppers water resistance

DURABILITY & PERFORMANCE

Parameter/Standard test method		General sports	School footwear	Casual	Men's town	Cold weather footwear	Women's town	Fashion	Infants	Indoor
Uppers' flex resistant: (kc without visible damage)/EN 13512		Dry = 100 Wet = 20	Dry = 100 Wet = 20	Dry = 80 Wet = 20	Dry = 80 Wet = 20	Dry = 100 Wet = 20 – 20° = 30	Dry = 50 Wet = 10	Dry = 15	Dry = 15	Dry = 15
Uppers' tear strength (Average tear force, N)/EN 13571	Leather Other materials	≥ 80 ≥ 40	≥ 60 ≥ 40	≥ 60 ≥ 40	≥ 60 ≥ 40	≥ 60 ≥ 40	≥ 40 ≥ 40	≥ 30 ≥ 30	≥ 30 ≥ 30	≥ 30 ≥ 30
Outsoles' flex resistance: EN 17707	Cut growth (mm) Nsc = no spontaneous crack	≤ 4 Nsc	≤ 4 Nsc	≤ 4 Nsc	≤ 4 Nsc	≤ 4 Nsc at – 10 °C	≤ 4 Nsc			
Outsoles' abrasion resistance/EN 12770	D ≥ 0,9 g/cm³ (mm³) D < 0,9 g/cm³ (mg)	≤ 200 ≤ 150	≤ 200 ≤ 150	≤ 250 ≤ 170	≤ 350 ≤ 200	≤ 200 ≤ 150	≤ 400 ≤ 250			≤ 450 ≤ 300
Upper-sole adhesion (N/mm)/EN 17708		≥ 4,0	≥ 4,0	≥ 3,0	≥ 3,5	≥ 3,5	≥ 3,0	≥ 2,5	≥ 3,0	≥ 2,5
Outsoles' tear strength (Average strength, N/mm)/EN 12771	D ≥ 0,9 g/cm³ D < 0,9 g/cm³	8 6	8 6	8 6	6 4	8 6	6 4	5 4	6 5	5 4

PERFORMANCE & DURABILITY

PHYSICAL TESTS

OUPPER	Flex resistance
	EN 13512 or SATRA TM 55/SATRA TM 25
	Resistance to tear strenght
	ISO 3377-2 or DIN EN ISO 17696
TEXTILE UPPER	Colour fastness to Rubbing
	EN ISO 105 X12 - DRY
	EN ISO 105 X12 - WET
OUTSOLE	Flex resistance
	SATRA TM 60, or DIN EN ISO 17707
	Abrasion resistance
	SATRA TM 174 or ISO 4649 or EN 12770
	Slip Resistance
	SATRA TM 144/EN 13287
HEELS	Heel Attachment
	SATRA TM 113
INSOLES	Water absorption/Water Penetration
	EN 12746
LINING	Color Fastness to rubbing dry/wet
	EN13516 or EN ISO 17700
WHOLE SHOE	Adhesion between outsole and upper
	SATRA TM 411 or DIN EN ISO 17708
	Toe Post Attachment
	SATRA TM 118
	Bennawart Flexing
	EN ISO 17707

PHYSICAL TESTING
LEATHER & FOOTWEAR

HOHENSTEIN TESTING CAPABILITIES

- Germany (Headquarters)
- India (Gurugram)
- Hong Kong / China (will follow soon)

DAKKS ACCREDITATION (GERMANY)

- 46 Test Methods accredited
- totally around 100 tests possible

ACCREDITATION SCOPE

PROPERTIES	TEST STANDARD	EQUIPMENT
Thickness	SATRA TM 1	Thickness Gauge
Tensile Strength	ISO 3376	Tensile Tester
	ASTMD 2208	
	ASTMD 2209	
Seam Strength	BS 5131: 5.13	
	EN 13572	
	SATRA TM 180	
Tab Strength	SATRA TM 165	
Toe Post Attachment	SATRA TM 118	
Toe Load	SATRA TM 404	
Sole Bond	BS 5131:5.4	
	ISO 17708	
	SATRA TM 411	
	ISO 20344	
Top Piece Attachment	SATRA TM 108	
Strap/Elastic Attachment	SATRA TM 181	
Trim Attachment	SATRA TM 117	
Strength of Eyelet Facing	SATRA TM 149	
Heel Attachment	SATRA TM 113	
	EN 12785	
Eyelet Strength	SATRA TM 150	
Strap to Sole Strength	SATRA TM 120	
Tear Strength of outsole	ISO 34-1	
Tear Strength	ISO 3377-1	
	ISO 3377-2	
	EN 13571	
	SATRA TM 30	
Coating Adhesion	SATRA TM 410	
	ISO 11644	
Martindale Abrasion	EN 13520	Martindale Tester
	SATRA TM 31	

ACCREDITATION SCOPE

PROPERTIES	TEST STANDARD	EQUIPMENT
Vamp Flex	ISO 5402-2	Vamp Flexing Machine
	SATRA TM 25	
Ross Flex	SATRA TM 60	Ross Flexing Machine
	ISO 4643	
Whole Shoe Flex	SATRA TM 92	Whole shoe flexing machine
	SATRA TM 77	
Heel Impact Resistance	SATRA TM 20	Heel Impact tester
	ISO 19953	
Heel Fatigue	SATRA TM 21	
	ISO 19956	
Slip Resistance	SATRA TM 144	Slip resistance tester
	EN ISO 13287	
	ASTM F 2913	
Breaking Strength of Shoe Laces	SATRA TM 94	Tensile Tester
Hardness of Outsole	ASTM D 2240	Digital Durometer
	SATRA TM 205	
Lace to Lace Abrasion	SATRA TM 154	Lace abrasion tester
	ISO 22774	
Corrosion Resistance	ISO 22775	Glasswares (Only for method-2)
	SATRA TM 310	
SST Corrosion	ASTM B 117	Salt Spray Tester
	ISO 9227	
Qualitative Peel	SATRA TM 148	Glassware
Bally Flexing	ISO 5402	Bally Flexing Machine
	EN 13512	
	SATRA TM 55	
Bennawart Flexing	ISO 17707	Bennawart Flexing Machine
	SATRA TM 161	
Buckle Breaking Force	SATRA TM 141	Tensile Tester
Strength of Buckle Fastening	BS 5131:5.11	
Flammability	BS 5852	Flammability test setup
Heat Stability	ISO 17227	Oven
Determination of resistance to puncture	EN 388	Tensile Tester

COMPLIANCE WITH „LEGAL REQUIREMENTS“

EU:

Some typical Product Recalls

- Chrome VI in leather shoes
- Lead in out-sole materials
- Phthalates in plastics, glues & coatings

USA:

California Proposition 65

- Chrome VI in leather
- Phthalates

Chemicals of High Concern to Children (CHCC)

WHY IS IT USEFUL TO TEST SHOES FOR HARMFUL SUBSTANCES?

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COMMON REASONS FOR FAIL

Chemical Parameter	Material	Common failed component
Banned Azo Dyes	Textile	Collar lining, sock lining, strap
Disperse dyes	Textile	Collar lining
Chlorinated phenols	Textile	lining, Sock lining, collar Binding/lining
Lead / Cadmium	Foam	interlining
Short-Chain Chlorinated Paraffins	PU	Interlining
Polyaromatic Hydrocarbons	PU	outsole
Phthalates	Plastic	Shoelace end tube, Foam, Interlining,Soles
Dimethyl-formamide	PU	Typical PU materials
Chrome VI	Leather	Leather sock lining

THE HOHENSTEIN LABEL FOR COMPETITIVE ADVANTAGE

BASIC PACKAGE

- Physical Testing
- Chemical Testing
- Longevity
- Restricted Substances

(not applicable in case of valid OEKO-TEX© STANDARD 100 Certificate)

SCOPE EXPANSION

- Workmanship
- Odor
- Durability
- Wear Performance
- Recycled Materials
- Genuine Leather
- Anti-microbial Finish
- Water Repellency
- Waterproofness
- Airpermeation
- Washability