

**HAPTIC**<sup>®</sup>  
**LOOK, TOUCH & FEEL**  
[www.hapticcoating.com](http://www.hapticcoating.com)

 **华峰 HUA FENG**<sup>®</sup>

# WHAT IS HAPTIC?

HAPTIC is a high-performance selective additive 3D coating technology. Developed by industrial coatings expert, Dr. Thomas Schmidt, HAPTIC uses a proprietary water-based polyurethane formulation made from world-class raw materials. HAPTIC is applied through a multi-layer screen printing process that allows complete design flexibility.

HAPTIC can be applied on a variety of base textiles for footwear, accessories, and apparel including:

- Sandwich Mesh
- Single Layer Mesh
- Engineered Mesh
- Stretch Mesh
- Open hole mesh

HAPTIC is produced at Hua Feng's facilities in China and Vietnam and the applications are normally supplied as cut components which can include reinforcements to facilitate easy final assembly. Hua Feng can also supply complete footwear, apparel, and accessories using HAPTIC coatings.



# Technology

# HAPTIC<sup>®</sup>

LOOK, TOUCH & FEEL



**DURABLE • SUPPORTIVE • BREATHABLE**



# WHY HAPTIC?

## Freedom of Design

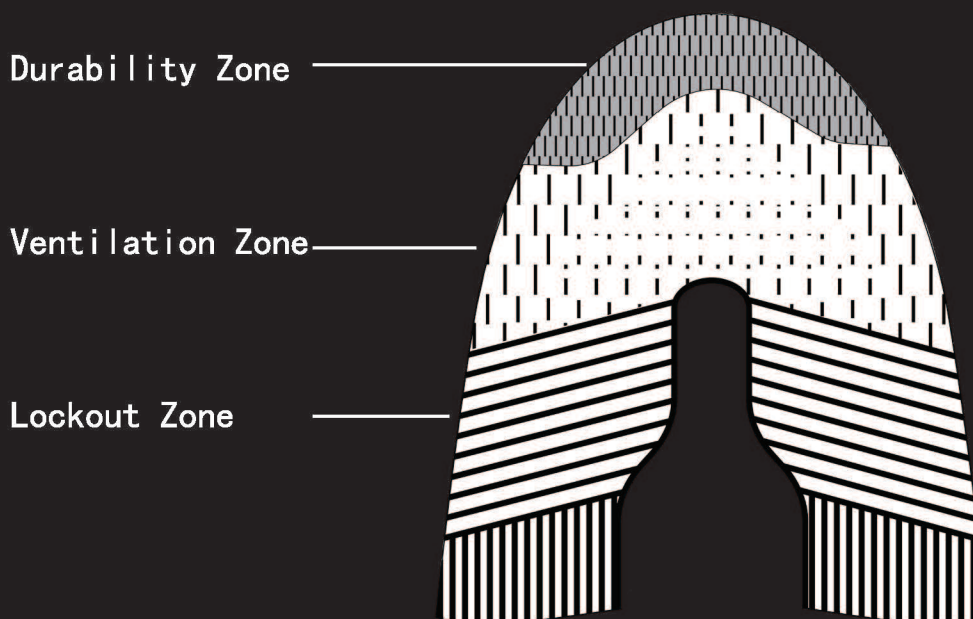
All shapes and geometric designs, including fine lines, small dots, and full areas can be applied at various thickness levels. In addition, effects such as reflective, metallic, anodized, flip-flop color shift, pearlescent, glossy, matte, thermochromic, and photochromic can be selected. The HAPTIC surface can also be customized to offer smooth, nubuck, sandpaper, or rubber touch.

## High Performance & Comfort

The HAPTIC coating offers exceptional resistance to abrasion, flexing, and hydrolysis. Tune performance by strategically printing HAPTIC design and layers to enhance durability, stability, and breathability. Engineer fit by using HAPTIC to create zonal stretch. Enhance comfort through seam-free construction using HAPTIC coating instead of stitching.

## Environmental Sustainability

The HAPTIC additive manufacturing processes ensures the highest material efficiencies. PU coating is applied only where needed to eliminate cutting waste. HAPTIC coatings are formulated based on high-solid water-based chemistry ensuring safe workplaces and environmental protection.



# HAPTIC Features & Benefits

Feature	Benefit
Coating thickness can be adjusted between 0.05 - 1.2 mm	Exciting 3D designs possible; new visual 3D effects like living color and 3D touch effects possible
Fully covered 3D areas possible	Maximum durability and wear resistance, high support of feet
Fine lines and small dots possible	Protection of the textile while keeping maximum breathability in between the coated areas; thin light weight textile material can be reinforced
Metallic and special effect colors	Highly technical look, eye catching designs possible
Various touch effects possible, e.g. nubuck-like or sandpaper-like	Adding emotional perception by touch effects
Coating can cover sewing lines	2 different mesh types could be stitched together and zig-zag stitching could be fully hidden
Semi-transparent and transparent coatings possible	See-through effects create exciting design opportunities
Chemically cross-linked polymers	Strong and durable surfaces; very good bonding
High abrasion resistance	Robust light weight constructions possible
Applied by advanced screen printing technology	Multi-color, multi-touch and multi gloss effects possible;
Additive application process	No cutting waste, high material efficiency
In-house coating formulation, full control on chemical safety management	Safe and environmentally friendly products, consistent quality and proven performance

# HAPTIC in the public space

## Conferences



## Publications

### Laying the foundation of industry 4.0 by forward-looking planning of innovation

Huafeng's Haptic - a selective additive 3D coating technology for sport shoes

*Dr. Thomas W. Schmidt*

#### Abstract

To be published 2018



• Home / Opinion / 40th reform and opening up

# Green and red: Making sustainable progress in Fujian

By Thomas W. Schmidt | chinadaily.com.cn | Updated: 2018-05-28 16:55

<http://www.chinadaily.com.cn/a/201805/28/WS5b0bc406a31001b82571cbae.html>

FEATURE

Coatings World Magazine, May 2017

# Haptic Coatings

## A New and Selective 3D Coating Technology

Thomas W. Schmidt and Xing-Sheng Jiang, *Huafeng, Huangshi Ind. Dev. Zone, Putian, China*;  
Li Chuan Lillian Tseng, *Graduate Institute of Management, National Taiwan University of Science and Technology, Taipei, Taiwan*

### Abstract

A new and selective additive 3D coating technology was developed and implemented for mass production. Besides attractive visual design opportunities, a strong focus is on the touch experience of final products. Haptic perceptions can be controlled by application of selective

footwear and garments. Cutting waste does not exist and material is only applied where it is needed. Huafeng, as a T2 supplier, moved into a new business model of component manufacturing with haptic coatings. Component manufacturing allows a lean manufacturing chain, full accountability on quality and more

solutions for better design, more sustainability and less labor cost.<sup>1</sup> Haptic was introduced to the market in early 2015 and since then has shown rapid growth and success.

### Haptic Technology and Advantages

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SPOTLIGHTS KETTENWIRK-PRAXIS 02/2017

## Getting straight to the point – the advantages of an additive coating Greater efficiency, diversity and environmental protection when producing shoes using Huafeng's Haptic coating

Sports shoes must deliver maximum performance during use, which means that the technology used to produce them is constantly being optimised. Huafeng has made an effective contribution to this development with its new innovation for the mass production of shoe upper materials based on

(Fig. 3). A thin surface layer is applied on top, which determines the optical appearance and the haptic characteristics.

### Having the handle in hand

The perception of handle is an important buying criterion and plays an important role

**Sturdy structures for a long service life**  
Sports shoes are subjected to a great deal of stress when worn and must meet stringent quality requirements. The shoe fabrics and coatings in particular must exhibit high-performance characteristics. The Haptic coatings are very tough and meet all the mechan-

## HAPTIC COATING – A NEW SELECTIVE ADDITIVE 3D COATING TECHNOLOGY

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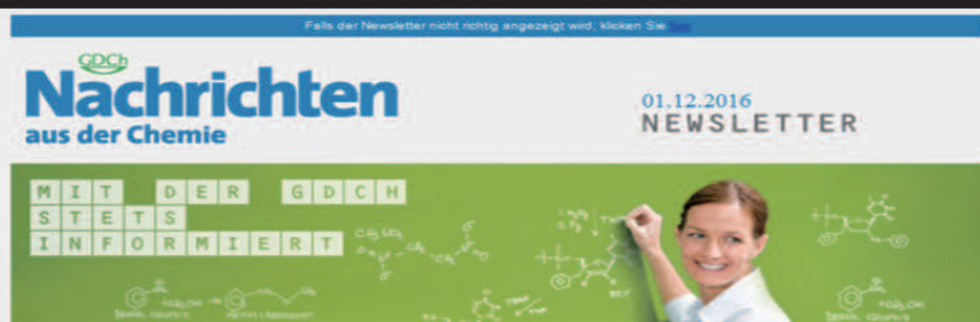
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### Abstract

A new selective additive 3D coating technology was developed and implemented in mass production. Beside of attractive visual design opportunities a strong focus is put on the Touch-experience of final products. Haptic perceptions can be controlled by application of selective multi-layer 3D textures, by the shape and thickness of these 3D textures and by the coating formulation itself. The coating formulation can be fine tuned achieving soft-touch nubuck-like effects, smooth slippery or sticky effects or rough sandpaper-like effects. In combination with attractive colors such as metallic, color shifting or thermochromic colors and finishes with



### Haptic is Huafeng's

innovative 3D additive coating technology revolutionizing the supply chains of sportswear. Haptic is usually applied on polyester or nylon textile materials and can be used for footwear, apparel and accessories applications. Haptic allows attractive colors, exciting touch and 3D multi-level designs. Soft & comfortable products are the result of this sewing-free technology. Additive manufacturing without cutting loss and fully water based chemistry leads to maximum sustainability.

Get in TOUCH to FEEL what [Haptic](#) can offer to your business; or contact [thomas.schmidt@huafeng-cn.com](mailto:thomas.schmidt@huafeng-cn.com).

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### NEWS ALERT

SPORTING GOODS INDUSTRY UPDATE



Amongst others in this issue:

- [New Balance to sell first 3D printed running shoe](#)
- [Nike offers glimpse at redesigned headquarters](#)
- ["ISPO is all the year"](#)
- [adidas Group launches new sustainability strategy](#)
- [UNESCO launches online campaign promoting the role of sport for education](#)
- [WFSGI statement on suspension of disc brakes in road racing by the UCI](#)
- [Eurobike take up active role in Taichung Bike Week](#)
- [Haptic: a revolutionizing new technology](#)
- [Trade growth to remain subdued in 2016 as uncertainties weigh on global demand](#)



# Awards





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