ESCHMANN TEXTURES

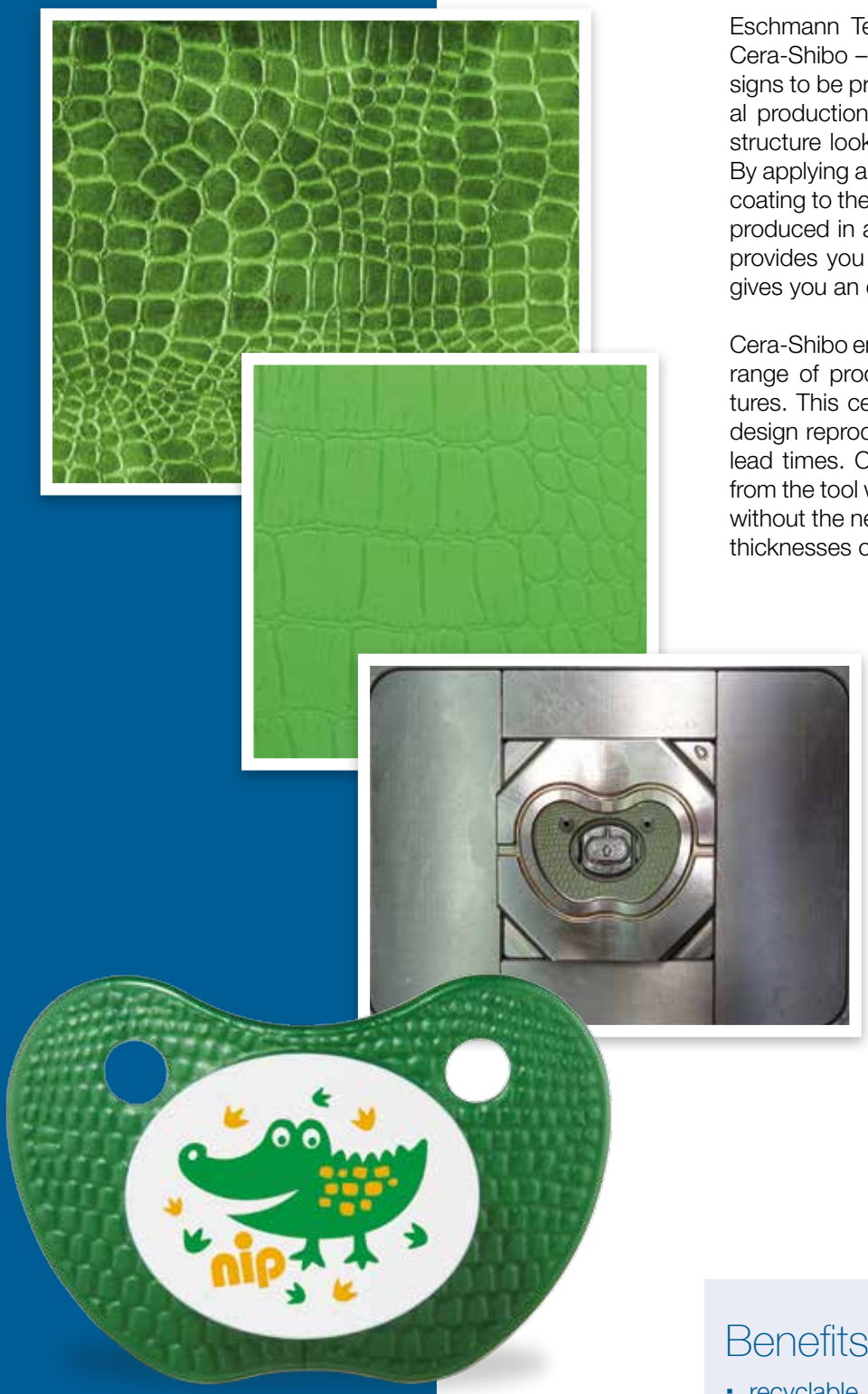
Get in touch.

Cera-Shibo

The ceramic technology for plastic injection moulding –
delivering greater design versatility

Cera-Shibo – the ceramic process

Plastic injection moulding design freedom



Eschmann Textures has an innovative technology – Cera-Shibo – at its disposal that enables different designs to be produced by the same tool. In conventional production methods the tool determines how the structure looks. Things are different with Cera-Shibo. By applying a heat-resistant, almost wear-free ceramic coating to the tool surface, plastic components can be produced in a very wide range of different looks. This provides you with a brand new level of flexibility that gives you an extra dimension of design creativity.

Cera-Shibo enables users to enhance an almost infinite range of products by adding specific surface structures. This ceramic process facilitates true-to-original design reproduction at unbeatably short reproduction lead times. Cera-Shibo can be removed at any time from the tool without leaving residues and be reapplied without the need for additional polishing, modified wall thicknesses or similar.

Benefits at a glance

- recyclable, as the ceramic coating can always be removed and then reapplied (except for mirror-finish surfaces)
- very flexible and therefore customisable
- the technology of the future for customised manufacturing
- exact replication (reverse design)

Our advisory service – the ideal process for you

The right technology for different requirements

Using innovative technologies, Eschmann Textures is adept at developing the ideal surface structure for your product, based on a wide range of creative ideas in line with natural or artificial patterns. Modern methods like Eschmann Textures' RealTec Prototype Modelling deliver an accurate and rapid assessment of the appropriate surface structure for the relevant application.

Furthermore Eschmann Textures' Cera-Shibo is a unique, flexible as well as time- and money-saving technology that actions design ideas that were previously not feasible using conventional production methods. The surface structure is contained in a ceramic coating and is no longer an integral part of the tool.

This new technology provides a high degree of toolmaking flexibility in terms of material selection (steel grades on request) and the management of modifications. Welds, insert separators etc. are far less critical compared with conventional etching technology. Special surface finishes are not required. Cera-Shibo also facilitates B-surface structures, like, for example, the processing of complex rib-reinforcing structures or wall thickness changes.

Nevertheless other processes may be more suited to some applications and tools. We select the right process to match your ideas, based on your production parameters. Why not get in touch, we will provide you with comprehensive advice.

Example: EPP

One lightweight material – wide range of options

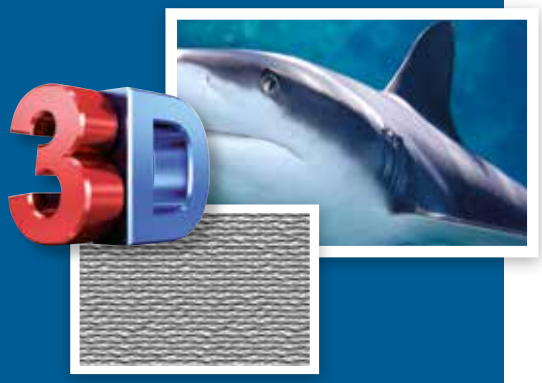



Etching technology

Laser technology

Ceramic technology

Combination	with laser technology	with etching technology	with laser technology (CO_2 only) and 3D-print
Quality	limited to technology-compatible structures, no replication of complex structures	1:1 reproduction (greyscale-based)	1:1 reproduction (reversible)
Quantity	high quantities	high quantities	prototypes, batches, custom designs
Materials	PM steels and – to limited extent – aluminium	PM steels and aluminium plus – to limited extent – electrode materials	PM steels, aluminium, plastic substrates; FDM etc.
Time	medium	medium to high	fast to medium



Benefits

- rapid visualisation of your ideas, even haptically, in exact detail
- inexpensive, since many more variations are feasible compared to conventional product development
- versatile – as structured skin for prototypes or for close-to-production injection moulding use on ceramic basis

From idea to prototype

Many routes lead to the perfect surface

Taking the natural world as an example. Be it granite, slate, wood or other natural structures like leather, Cera-Shibo enables almost any surface to be cast 1:1 in exact detail. Of course casting from animal skins is only undertaken if the animals involved have died of natural causes or shed their skins, like some reptiles.

Artificial or very complex structures are innovatively produced using our “DigiTex” 3D print method. The starting point for actioning these structures is represented by your ideas, which are depicted as prototypes in a visually and haptically appealing way using 3D print technology, and in a wide, even multi-coloured range of versions.

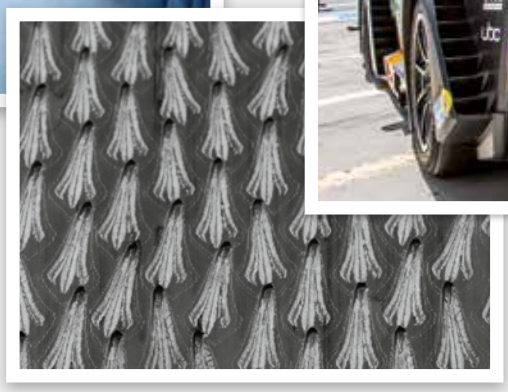
Casting enables surfaces developed in this way to be applied as a thinly layered structured skin on prototype components (STL, SLS, FDM etc.) and lacquered using our RealTec method. Dyed structured skins are also available. This facilitates a fit-to-form-analysis even before the start of production. RealTec – the basis for accurate, timely prototype-based decision-making. Cast surfaces can also form the basis for Cera-Shibo, which means that even genuine plastic injection moulding components can be produced. This is where the wheel from development to serial application comes full circle.

Cera-Shibo – the trendsetter

A new era

The world thrives on change. New technologies and materials are set to complement or replace “the tried and tested”. Eschmann Textures has created a technology – Cera-Shibo – that will in future meet the design, material and customised product requirements of our customers. Cera-Shibo can also be used as a stand-alone tool technology for vacuum deep-drawing (IMG) and PU spraying. Here there are lots of promising approaches. We are happy to advise you.

Initial studies involving new lightweight (PU) composites are demonstrating what potential this new technology has. Using the natural world as a model – the flow-enhanced shark’s skin as a basis for technical applications.



Street Shark – a joint project with Frimo Group GmbH and others

Cera-Shibo sets trends – eyewear-maker Luxottica utilises the wide range of options.

Applications

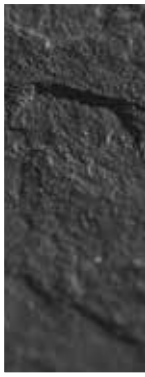
No surface is impossible.

Smart product ideas combined with creative surface design create new markets – be it for lifestyle, automotive, sports or other applications. Plastics without limits.

nip

ALBÉA

KETTLER



GARANTIA®

LUXOTTICA®

KETTLER®

Our Ceramic Technologies

Cera-Shibo

for even more design diversity

Application options:

- one-off custom design to small batches
- trademark protection due to in-structure watermarks
- InMouldGraining (IMG)
- blow moulding
- silicone moulding tools
- foaming tools
- expanded polypropylene processing (EPP)
- plastic injection moulding (incl. PP, PU etc.)

Cera-Coat

Contour and component optimisation

The coating is:

- polishable (HGL only partially)
- machinable
- reversible & flexible as required
- repairable
- heat-insulating
- suitable for B-surface structuring (e.g. ribs, honey-comb structures, reinforcements etc.), wall thickness changes, heat-balance optimisation – ideal for flexible change management and component enhancement

Cera-Shell

Innovative tooling technology

Short project lead times go hand in hand with new design opportunities and extremely efficient manufacturing.

- unbeatably fast processing times – compared to elec-troplated tools / moulds
- models don't need to be leather-covered – contour changes can be flexibly performed on the male mould

Cera-Mat / G-Coat

Fine ceramic coatings for matt surfaces

The processes:

- enhance flow properties
- do not alter original designs
- reduce gloss levels on request
- give plastics an almost painted look
- are reversible and easy to repair
- have no restrictions in terms of tool dimensions
- can be applied in short processing lead times

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