COEXISTENCE

Covestro CMF Design Trends
2022 | 2023 Edition

Electronics & Electrical

covestro

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Content

At Covestro, we co-create Color Material Finish (CMF) with designers, blending aesthetics and functionality into material-based experiences that can surprise and delight consumers. Collaboration is at the heart of our business model – we value our partners and work closely with them to develop customized, finely-tuned solutions. We add value through aesthetic, functional and circular design.

A global service at your fingertips. Our team offers world-class color development, drawing on diverse backgrounds and experience across a wide range of industries to optimize the impact of CMF on consumers. With a network of 6 Color & Design Centers connected across the globe, we're ready to support your design process physically and digitally, no matter where you are located.

Inspiration for your CMF strategy or design concepts. We continuously analyze and monitor trends to extract implications on aesthetics of materials. Our trend brochure in its 2022 | 2023 edition shows how actual and longer lasting key themes for the industry can be translated into a convincing CMF strategy and a makeable design. We are constantly pushing the boundaries on what can be achieved with our high quality, tunable polycarbonate and hope to inspire designers by providing a glimpse of the possibilities.

We have a team of in-house designers and colorists who will help you better engage consumers through world class CMF design by leveraging the optical, tactile, haptic, mechanical, aesthetic and functional properties of polycarbonate. We're ready to help you make your designs a reality, from concept to mass-production.

Global Color & Design (CMF)
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Human evolutionary progress can be attributed to a continuous pursuit of self-improvement as well as the ability to embrace diversity and adapt to new environments.

Humankind is currently in the midst of its next phase of transformation: humans are approaching a confluence with machines. How should virtual and physical worlds be integrated with one another? Can humans live in balanced harmony with nature – is it a concept destined to remain science fiction, or a feasible future reality?

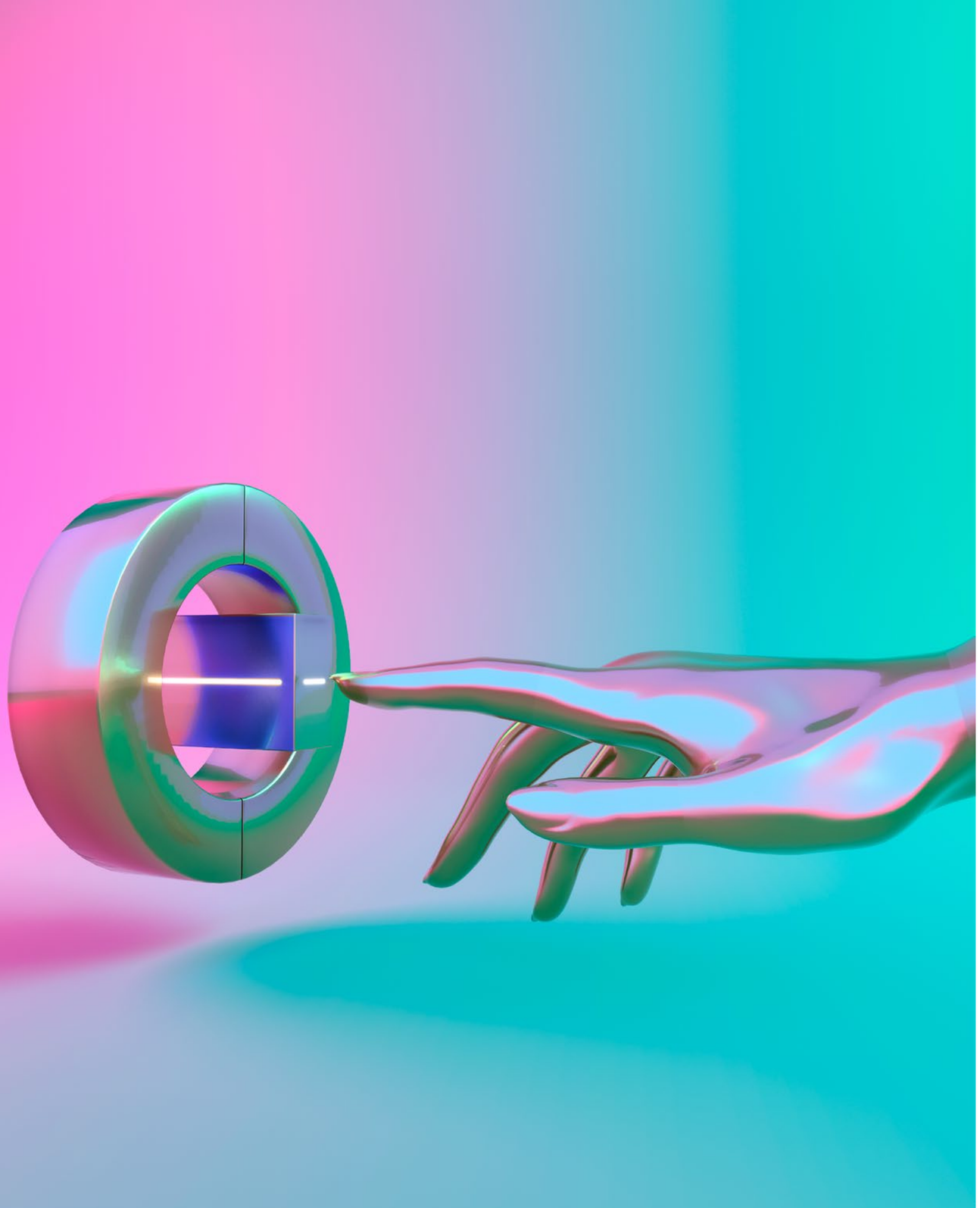
In high-density areas, micro design solutions are being used to optimize the functionality of compact living spaces in order to cater to the human need for spaciousness and comfort. Demand for smart and connected home appliances will continue to flourish, as multifunctional, adaptable materials and bespoke aesthetics gradually replace disparate design styles and products.

Rapid advancements in network technology have accelerated the transmission of information, with greater speed and accuracy enabled by large databases. However, this momentum has also contributed to the spread of fear and anxiety over privacy-related issues and new generations of product designers must address security concerns too.

‘Going green’ is not just a slogan, but an essential course of action that should be applied to our lives on a daily basis. Clean energy, recyclable materials and non-electric-powered appliances are some of the ways in which we can restore the health of our planet while making product and lifestyle improvements. It is with the hope of achieving a balanced coexistence with nature that we continue our efforts in these areas.

Trend 1

Superhuman 2.5G



Humans have always been complex creatures, imbued with a blend of rational and emotional sensibilities that compel them to continually seek self-improvement. From skin contact and limb mobility to brain function, our bodies comprise extremely sophisticated mechanisms that require consistent maintenance, conscious or otherwise. Through meticulous research, analysis and mimicry of human characteristics, advanced technologies have come close to being able to reproduce interactions such as touch, temperature sensing and neurological activity.

With time, such developments are expected to enhance quality of life, augmenting our natural abilities whilst also making experiences more enjoyable. Humankind's endless curiosity and readiness to embrace technology could open up countless possibilities. In our exploration of human-machine interaction, what unexpected discoveries might we make? What uncharted territories and unknown worlds might be revealed to us? With the rapid advent of microcomputers and neuroscience, could the superhuman abilities imagined in science fiction films – such as using neurological pulses to communicate without uttering a single word – become reality?

Personalized Interaction

As the spectrum of human-machine interaction expands, wearables are no longer limited to one's wrist (watches, wristbands), feet (shoes, socks) or head (glasses, helmets, headbands), but will become comprehensive, customizable solutions that cater to human needs in terms of material, volume, comfort and function.

CMF
Bold, highly saturated colors in cool shades are evocative of cyberspace aesthetics. Transparent textures create a sense of breathability, which, when paired with technical surface finishes, act as a soft-shelled membrane, enhancing a user's haptic ability and physiological performance.

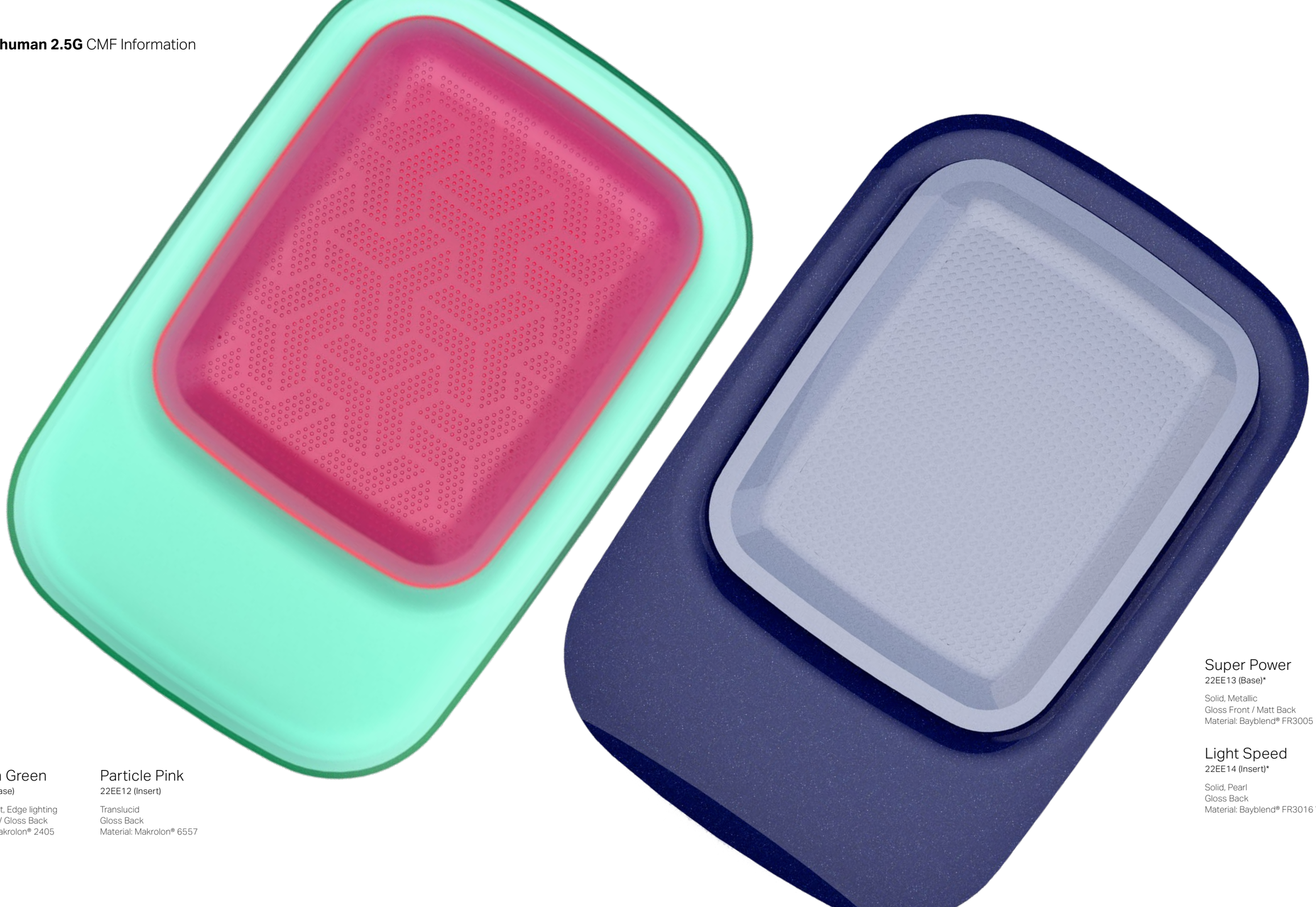
The material has excellent optical clarity and allows for a high level of design freedom. Availability of flame-, UV- and chemical-resistance, make it suitable for use in personal and portable electronic devices.

Extended Functionality

Whether through sensorial or intelligence-based means, humans have been augmenting themselves in different ways to extend the limitations of their bodies. A solution can be found in multisensory design, to push the boundaries of human perception.

CMF
Metallic electric blues in varying levels of saturation create a fluid sensation of being in an electronic environment that is neither entirely physical, nor virtual. Matte and finely textured finishes help achieve greater visual depth, furthering the illusion of being between worlds.

The material has a high gloss finish and can be processed easily. Thin wall flame retardant and UV stabilized, it features strong color stability even after long-term outdoor exposure, or in indoor settings exposed to sunlight.



Aurora Green
22EE11 (Base)

Transparent, Edge lighting
Matt Front / Gloss Back
Material: Makrolon® 2405

Particle Pink
22EE12 (Insert)

Translucid
Gloss Back
Material: Makrolon® 6557

Super Power
22EE13 (Base)*

Solid, Metallic
Gloss Front / Matt Back
Material: Bayblend® FR3005 HF

Light Speed
22EE14 (Insert)*

Solid, Pearl
Gloss Back
Material: Bayblend® FR3016 W

Trend 2

A Multifaceted Existence

With the aggressive expansion of urban environments and exponential increase in global population, our natural resources are in decline. To combat this, we need smarter products in everyday life that can extend what is available and accommodate more possibilities.

This is where micro living spaces could be an effective solution. Le Cabanon, the vacation home of Le Corbusier, spans 14 square meters. It was the only place this founding father of modern architecture ever built for himself. Indeed, many contemporary designs are conceptualized with the aim of optimizing every inch of space, with built-in flexibility to be adapted in a fluid and agile manner. Smart interiors and concealed furniture, are some of the ways in which multitasking within a limited area can be made possible.

The multiple requirements of work, family, and other responsibilities tax our time to the limit, demanding that we constantly switch from one mode to another. One moment we are an efficient employee, then next a loving family member, whilst also balancing an active social life and making meaningful contributions to society. It can be exhausting.

Humans long for comfort, a means of sheltering from external dangers and uncertainties. This plays out in our desire for living spaces that are soothing, clean, and spacious, but also provide entertainment, where we can find relief and validation.

Smart appliances can be an at-home companion and co-manager of responsibilities, helping to boost a user's confidence and ease their transitions. Consider being able to ask your mirror "How do I look today?" and getting the response "You look great! Healthy, well-rested and that is the perfect outfit choice!"

Intelligent devices could also help to promote a more positive spatial experience. Future living scenarios, aided by Internet of Things (IoT), modular home decorations and future generations of appliances, could see interiors transformed in a single click. Imagine simply turning off your TV and it seamlessly spins round to reveal a cabinet displaying soothing artwork.

Fragmented Lifestyles

In modern city life, each individual takes on multiple roles, each requiring a different aspect of oneself. Future designs will enable city dwellers to quickly adjust to different scenarios, such as the creation of a quiet, secluded immersive environment, allowing them to focus on work. Such concepts can help us establish clear boundaries and avoid unnecessary interruptions.

CMF
Pristine black is unobtrusive yet versatile, paired with soft, neutral jute tones and matte finishes. The overall effect is evocative of shifting boundaries, to reflect what it might be like to move freely between virtual and physical realities. The material can have high levels of transparency, with good chemical resistance and impact strength.

Adaptive Flexibility

Flexible, adaptable all-in-one products provide a variety of solutions for different contexts – freeing up space and removing the need to purchase multiple items. Their features are designed to create a sense of fluidity, bridging the gap between different contexts through textural qualities, tactile contrast, and color effects. These products have distinctive visual and haptic qualities but can also be folded away and hidden.

CMF
White and green tones can help to nurture a peaceful, relaxed, and joyful atmosphere. Fine surface textures enhance glossy finishes, resulting in color that is angle-dependent, where hues appear to shift depending on the viewer's perspective. The resulting effect is that of a soothing yet multifaceted and transitional experience.

Calm Black
22EE21 (Base)

Solid
Matt Front / Matt Back
Material: Makrolon® 2805

Gauze Curtain
22EE22 (Insert)

Translucid
Matt Back
Material: Makrolon® GF9024

Fine Gold
22EE23 (Base)

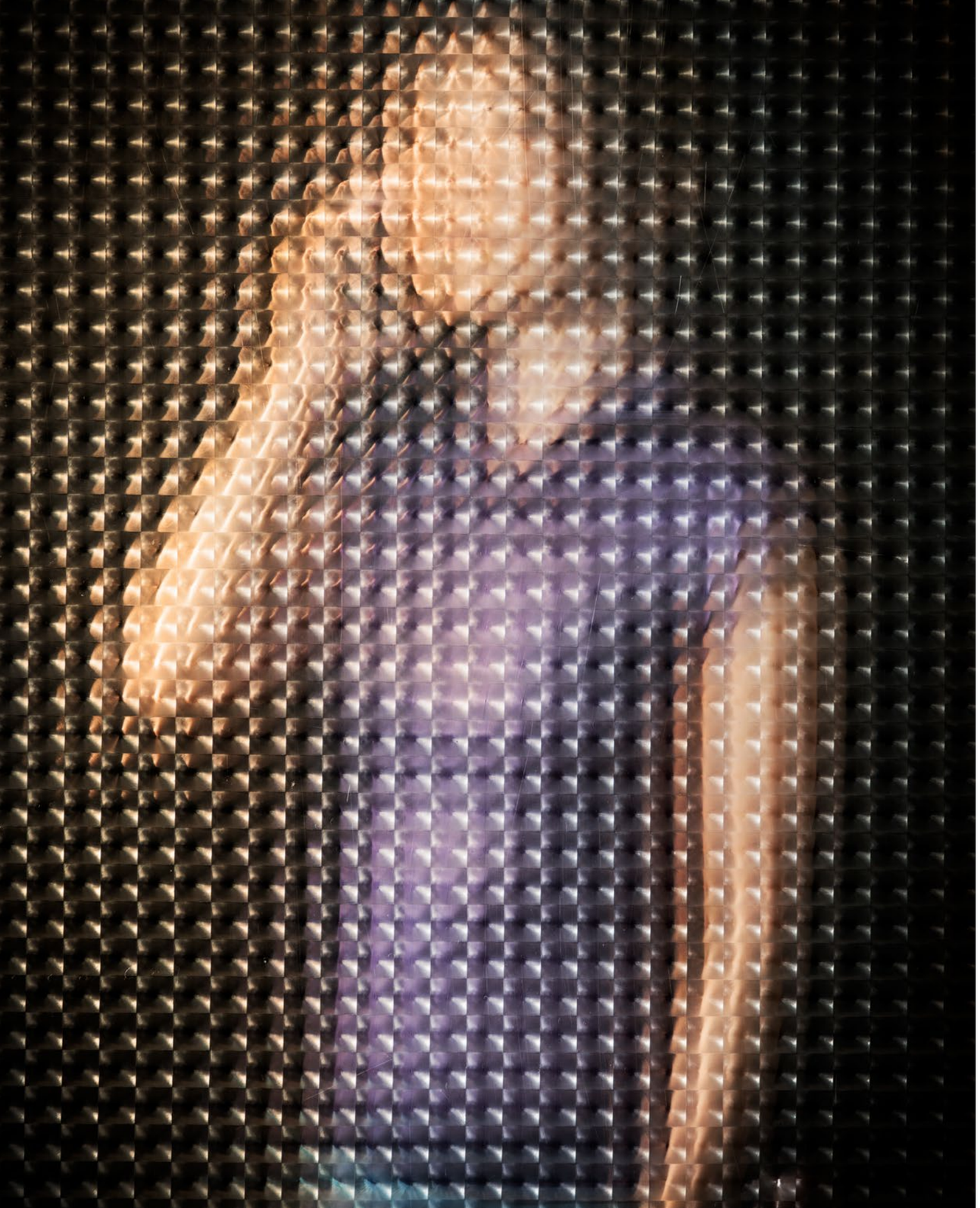
Solid, Metallic
Gloss Front / Matt Back
Material: Makrolon® 205R50

Halo
22EE24 (Insert)*

Solid, Pearl, Color Travel
Matt Back
Material: Makrolon® 2405

Trend 3

Transparent Society



Information technology has transformed our world into a vast database. Under its gaze, everything is transparent. Our eating and drinking habits, interests and hobbies can be tracked and discovered in swathes of code. What will big data reveal about you?

It is highly likely that the smooth operation of megacities and future development of civilized societies will rely heavily on collecting and organizing data via public service platforms. During critical moments such as pandemics and disasters, drawing on the data provided by electronic products, while large databases can help reduce human exposure to potential risks.

Yet worries over privacy remain a concern – our faces being identified by monitoring devices without consent, contact details shared with third parties of unknown origin. How do we manage these concerns? While we celebrate news of progress and greater public transparency, can we truly hope to explore this ocean of data safely?

Privacy Filters

With increased focus on intelligent solutions, products and services that make use of personal data will become more commonplace. The sharing of unique physiological data (fingerprints, voices, iris patterns and facial features) as well as individual details (names, occupations, etc.) poses further risk for violation of privacy. New user experiences should provide greater control over personal data and security – for instance, options for filtering of information and third-party supervision so users can decide if their details should be released, and if so, to what degree and for how long? Ultimately, we need to return decision-making power to the user, so they can enjoy the conveniences of an intelligent environment.

CMF
Soft grey and purple in soothing shades, their calming effect magnified by transparent and translucent finishes, are paired with bubble-like surface textures that provide a sense of breathability, bringing comfort and stress relief.

The grey material is highly transparent, with UV-, flame- and chemical-resistance, purple is thin-wall FR material with good mechanical properties.

Robust Protection

In the era of social media, users move freely across different platforms and settings, selectively altering or sharing information as they go, to match the personas they wish to reflect. Will future designs take ethical considerations into account? When we are immersed in virtual experiences and other parallel worlds, experiencing satisfaction, recognition, courage or comfort, design should also highlight an important principle: just as we must bear the consequences of our actions in the real world, this also applies in virtual reality. Design and ethics should work in tandem to keep us alert to when our reality is being impacted by virtual movements.

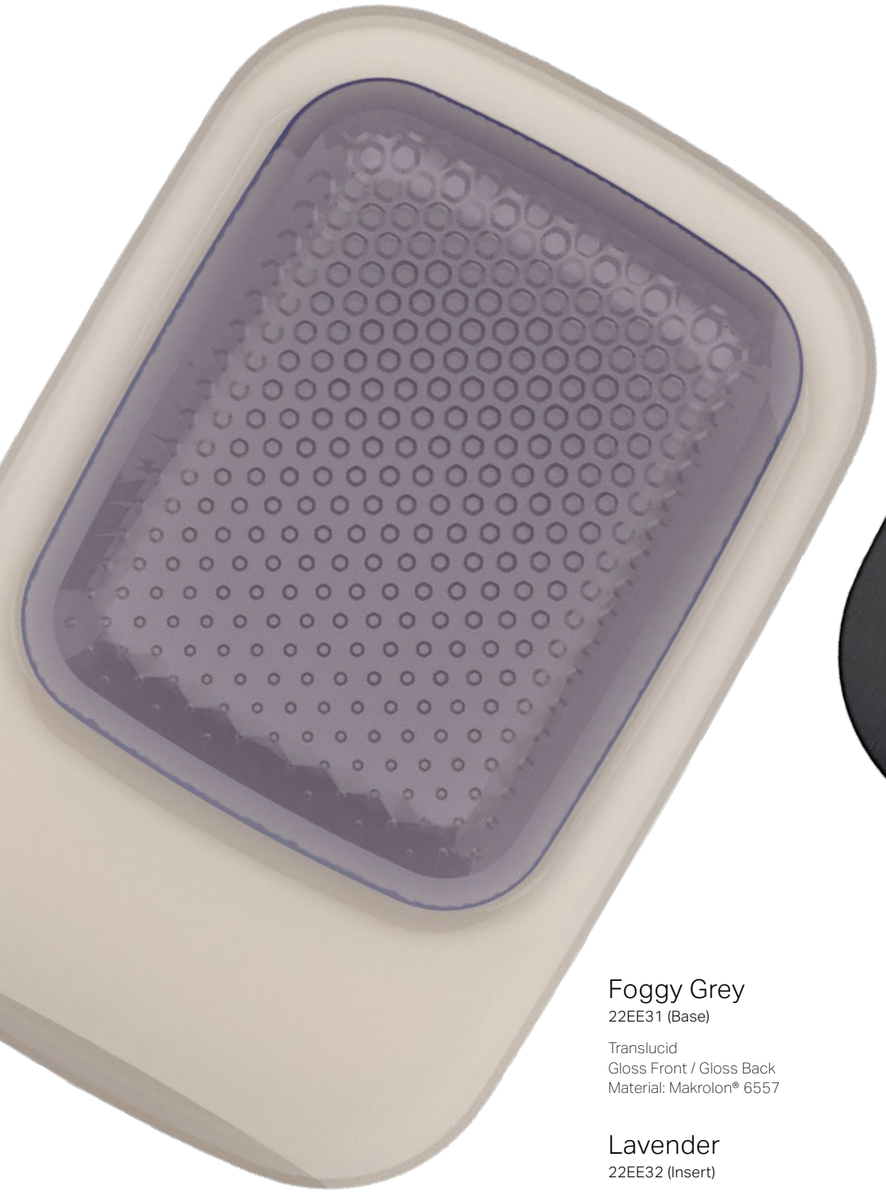
CMF
Black evokes a sense of calmness and hidden privacy, while carbon fiber composites project a solid, sturdy presence that is reassuring, making users feel secure and protected.

Public Surveillance

How should digital devices be displayed in public areas? Should they be completely concealed without alerting humans to their existence, or be highlighted in the most conspicuous manner? These products can serve as a deterrent, but it is also important for people to feel that they are not under constant surveillance.

CMF
Deep purple and ochre brown mirror the warning colors that some animals display in nature. The application of bespoke surface textures and color combinations or patterns, can also arouse a user's curiosity and enrich their haptic experience.

The material has excellent transparency and allows for infrared penetration, rendering it ideal for security devices which need to be concealed.



Foggy Grey
22EE31 (Base)

Translucid
Gloss Front / Gloss Back
Material: Makrolon® 6557

Lavender
22EE32 (Insert)

Translucid
Gloss Back
Material: Makrolon® LED5902FR

Shield
22EE33 (Base)

Solid
Material: Maezio®

Reborn
22EE34 (Insert)

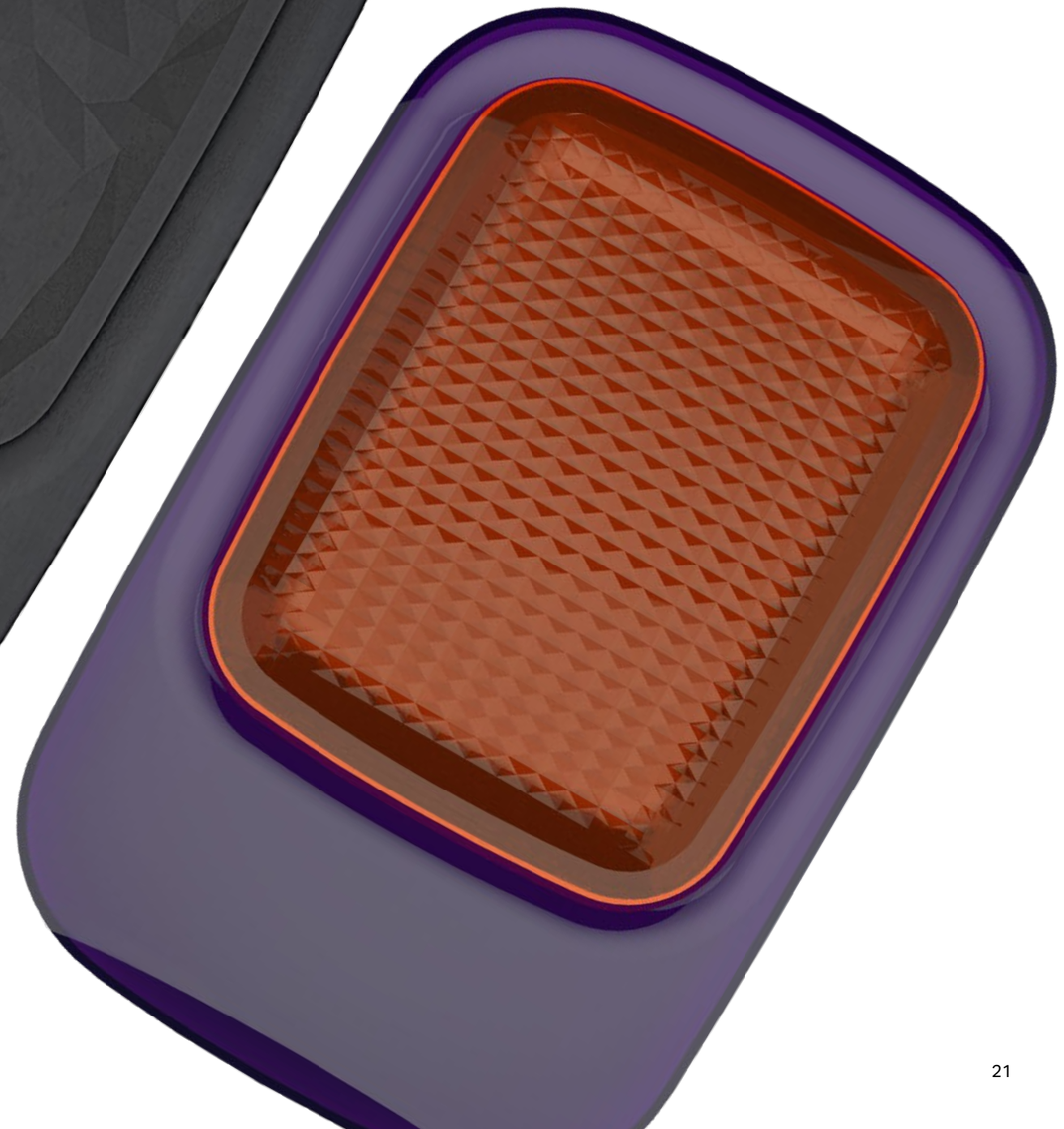
Solid
Material: Maezio®

Purple Dragonfly
22EE35 (Base)

Translucid
Gloss Front / Matt Back
Material: Makrolon® 205R50

Amber
22EE36 (Insert)

Transparent
Matt Back
Material: Makrolon® 2407



Trend 4

Conscious Consumption

One of the main points of 2022 and beyond will be to conserve the earth's resources and avoid excessive consumption. In response to ecological issues, materials such as recyclable plastics and biodegradables are being developed at an accelerated pace, while clean, green sources of energy are also being deployed. Humans are beginning to view industrial products made from recycled materials as desirable, not just necessary.

As part of this global movement, we need to reconsider what a product lifecycle means. Is it a single, seamless entity for one singular use, or does it consist of many different components? In the manufacture and assembly of products, could the shared ownership of goods and re-use of resources be a better solution?

This could also mean rethinking our relationship with the products we already own – materials that have undergone long-term use achieve a worn aesthetic that has its own timeless appeal, even taking on a completely different patina over time. In retaining robust parts, while replacing those that have deteriorated, much like beloved childhood toys, products can be usable and sustainable while retaining sentimental value.

Crafted with Care

A rustic, organic aesthetic brings a refreshing warmth to standardized industrial designs, a reminder that pursuing scientific or technical improvement does not mean neglecting emotional, sensory qualities. Natural and handmade elements can act as distinguishing features placing a demand for refined details and sophisticated materials reminiscent of limited or small-batch production.

CMF
Colors associated with nature and craft can elicit restorative sensations of being comforted and cared for. Soft, pastel yellow brings forth a sense of inner peace and security, cork-like textures exemplify the simple elegance of natural materials. Matte finishes offer a handcrafted appearance, building on the concept of low energy consumption.

The material has good impact strength, UV stabilized and flame retardant. Utilizing materials that are more environmentally friendly, with comparable performance properties to virgin polycarbonate, can help clients to realize greener products with reduced carbon emissions.

Modular Regeneration

It is possible to lengthen the shelf-life of products by enabling components to be replaced, upgraded and reconfigured, integrating green values with practical and aesthetic concerns. A variety of materials and textures can also be applied to enrich the narrative around the product. Such actions of reuse and renewal also allow owners to move away from throwaway culture and reconnect with their belongings in a more meaningful manner.

CMF
Blues and greens denote restraint and calm, while also symbolizing elements of the natural world such as mountains, streams, and forests. With a focus on more environmental friendliness, the material is made partly from recycled polycarbonate sheet and has good flame-resistance. Its lustrous pearlescent finish is in deliberate contrast with its humble origins, emphasizing its sophisticated transformation, to inspire further aesthetic explorations of regeneration.

Purposeful Living

Humans are reacknowledging the power of nature, viewing it as a place to restore the balance of their physical and mental health. Environmentalism is not just a fashionable cause, but consumer behavior that stems from clear and rational analysis, and reflection of human impact on the environment. Solutions are not to be found in extremes – slow living does not equate to blindly following traditional lifestyles; high-speed, high-pressure and high-density environments are not the answer either. Instead, humans can be prudent in accommodating diverse attitudes and making instinctive adjustments to their pace of life.

CMF
White and black form the foundation for this palette – evoking the romance of 'slow living', a restorative nurturing that is leisurely and peaceful. Matte finishes are reminiscent of organic textures, further building on the user's emotional connection with nature.

Conscious Consumption CMF Information

Cork
22EE41 (Base)*

Solid, Marble
Gloss Front / Matt Back
Material: Makrolon® FR6017R30

Sunshine
22EE42 (Insert)

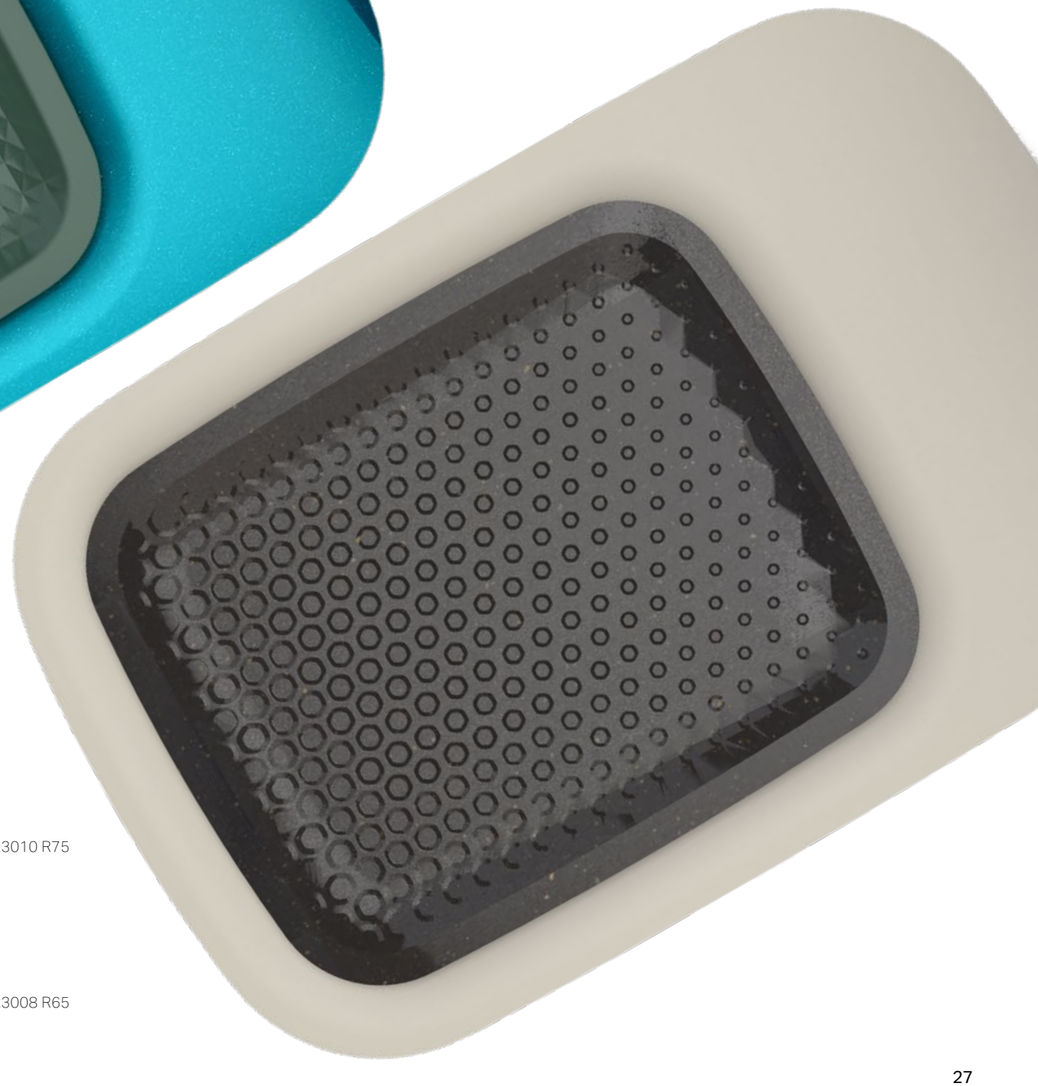
Solid
Matt Back
Material: Makrolon® FR6020RE

Fresh Blue
22EE43 (Base)

Solid, Pearl
Gloss Front / Matt Back
Material: Bayblend® FR630 GR

Mountain Green
22EE44 (Insert)

Solid
Matt Back
Material: Bayblend® FR3020 W BBS910



Pebble
22EE45 (Base)

Solid
Matt Front / Matt Back
Material: Bayblend® FR3010 R75

Rock
22EE46 (Insert)

Solid, Marble
Matt Back
Material: Bayblend® FR3008 R65

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GERMAN DESIGN AWARD WINNER 2022

* Special color effect, can be challenging to implement in some of our material combinations.
# All colors have been created by Covestro's color experts. The correlated RAL color codes are a reference only and not fully accurate.

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