SURFACE FINISHING

ONE3D

info@one3d.cz www.one3d.cz

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PLASTIC MATERIALS

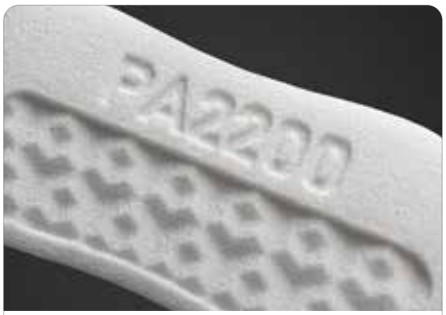
Plastic materials

The standard for our plastic parts´output quality are the basic operations that we always perform with all materials. At the end of the production process, we clean the surface from powder and blast it with an abrasive for refinement. Transparent parts are cleaned of resin and cured with UV light.

Below you can see all of our plastic materials in basic finishes.

SLA - WaterClear

Transparent material



SLS - PA2200

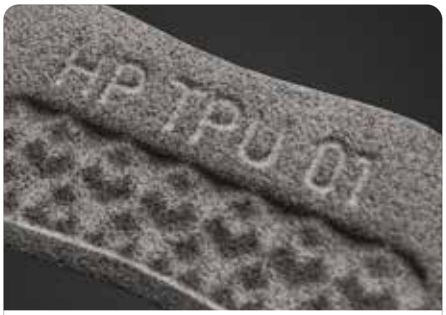
Polyamide 12

SLS - PA3200GF

Polyamide 12 + Glass filled

MJF - PA12

Polyamide 12



MJF - TPU Ultrasint

TPU rubber material

Basic processing of plastics

At the end of the production process, each plastic part is carefully cleaned of powder and blasted with an abrasive to achieve a smoother surface.
Standard post-processing of plastic parts are sanding and machining.

Sanding

We use a combination of automatic manual tools for sanding.

Machining

We use 5-axis CNC machine to meet the precise dimensions and tolerances or to improve surface quality.

Transparent SLA

After the production is complete, the parts are in the so-called raw state.
In order to achieve the desired properties, the parts are then cleaned from resign and UV cured.
During post-processing we can finish the surface with milky glass effect or apply spray painting.

Raw material

BM8322

Ivory

The raw parts typically have a smooth surface and visible building layers.
Post-processing is required.

Abrasive blasting

BM8323

Chocolate

More even surface finish with milky glass effect is achieved by blasting the surface.

Spray painting

BM8352

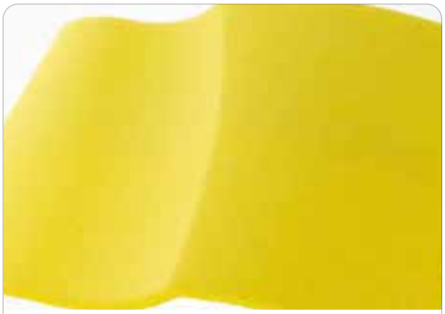
Brown

Applying the clear coat will result in fully transparent SLA part with no tint.

Dye coloring

Thanks to this technology, parts in hard-to-reach structures and surfaces can be colored.
The pigment of the color in which the product is dyed penetrates the surface of the material to the depth of tenths of a millimeter. At the end, the parts are washed of any dye residues and dried carefully.

Dip dyeing is suitable for parts that require high resistance to paint abrasion.



BM0834
Lemon Yellow

BM0837
Navy Blue

BM0849
Scarlet

BM0888
Pink

BM0937
Fluo Yellow

BM01066
Violet

BM3672
Blue

BM3674
Royal Blue

BM4157
Red

Note: Colours may vary slightly on your monitor.

BM5766
Blond

BM6654
Turquoise

BM7199
Orange

BM7302
Cyan

BM7382
Fluo Anise

BM8211C
Black

BM8322
Ivory

BM8323
Chocolate

BM8352
Brown

Note: Colours may vary slightly on your monitor.

BM8353

Golden Yellow

BM8360

Emerald

BM8361

Green

BM8362

Khaki

BM8547

Grey

Note: Colours may vary slightly on your monitor.

Chemical smoothing

Smoothing the surface and sealing the surface pores will produce hydrophobic surface with higher water resistance. Such surface also allows for easier maintenance and less bacteria.

Furthermore, the mechanical properties are improved. There are not as many stress concentrators on the surface of a smoothed part and failure due to fatigue occurs much later.

BM0834-VN000
Lemon Yellow

BM0837-VN000
Navy Blue

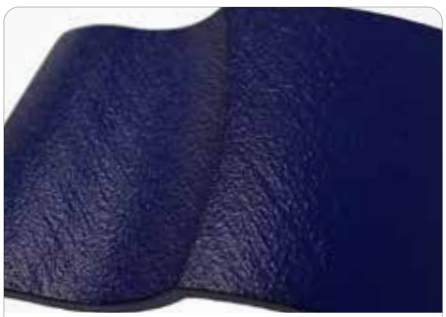
BM0849-VN000
Scarlet

BM0888-VN000
Pink

BM0937-VN000
Fluo Yellow

BM01066-VN000
Violet

BM3672-VN000
Blue



BM3674-VN000
Royal Blue

BM4157-VN000
Red

Note: Colours may vary slightly on your monitor.

BM5766-VN000

Blond

BM6654-VN000

Turquoise

BM7199-VN000

Orange

BM7302-VN000

Cyan

BM7382-VN000

Fluo Anise

BM8211C-VN000

Black

BM8322-VN000

Ivory

BM8323-VN000

Chocolate

BM8352-VN000

Brown

Note: Colours may vary slightly on your monitor.

BM8353-VN000

Golden Yellow

BM8360-VN000

Emerald

BM8361-VN000

Green

BM8362-VN000

Khaki

BM8547-VN000

Grey

Note: Colours may vary slightly on your monitor.

Spray painting

Spray painting consists of applying liquid fillers, bases, paints or varnishes using paint guns to the surface of the part. It is mainly used for design parts and visual prototypes produced in smaller series.

Thanks to painting, it is possible to achieve a very realistic appearance with high quality, various properties and roughness of the surface or exact RAL color shades.

Our offered options for spray painting

Filler - base layer, used in case of different absorbency of materials to seal the pores. It thus ensures a uniform surface.
Base - opaque paint, which can be mixed into any RAL shade, needs to be finished with clearcoat.
Xylacryl paint - thicker paint with better covering and adhesion to the surface. More durable than the base. Dries longer.
Polyurethane paint - for outdoor use, wheather resistant. Abrasion resistant. Dries longer.
Epoxy paint - for use on stressed surfaces. Any RAL colour. High mechanical and chemical resistance. It takes a long time to dry.
Coloured topcoat - to achieve a durable, opaque surface. Any RAL colour can be chosen.
Graining - used to achieve a grainy surface. Any RAL color can be chosen. Plating applications.

ML001
Filler

ML011
Base

ML016
Abrasion-resistant base

ML013M
Xylacryl paint - matte

ML013L
Xylacryl paint - glossy

ML014M
Polyurethane paint - matte

Note: Colours may vary slightly on your monitor.

ML014L

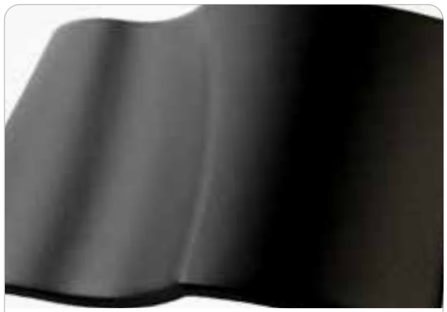
Polyurethane paint - glossy

ML015M

Epoxy paint - matte

ML015L

Epoxy paint - glossy



ML023M

Coloured topcoat - matte

ML023P

Coloured topcoat - satin

ML023L

Coloured topcoat - glossy

ML031

Visual graining

ML032

Abrasion-resistant graining

ML024

Tinted SLA

Note: Colours may vary slightly on your monitor.

ML001-ML011

Filler + Base

ML001-ML013M

Filler + Xylacryl paint matte

ML001-ML013L

Filler + Xylacryl paint glossy

ML001-ML014M

Filler + polyurethane paint matte

ML001-ML014L

Filler + polyurethane paint glossy

ML001-ML015M

Filler + epoxy paint matte

ML001-ML015L

Filler + epoxy paint glossy

Note: Colours may vary slightly on your monitor.

Plating

In additive manufacturing, plating is typically used for design parts with a metallic appearance or to achieve a conductive surface through which electrical charge can be conducted.

Plating can also increase the durability and change the functional properties of the final product.

PV001

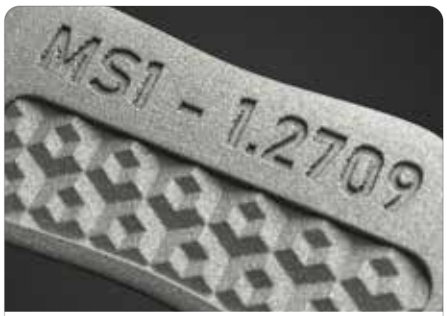
Aluminium - glossy

METAL MATERIALS

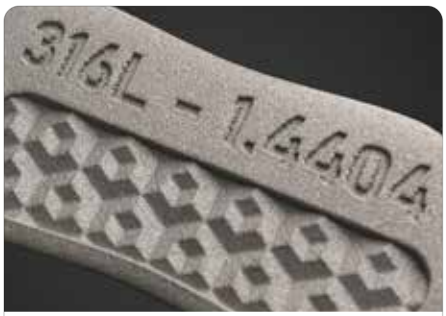
Metal materials

Our portfolio of metal materials includes aluminium alloy, stainless steel and tool steel.
During production, metal supports are always used. They serve as a support and have the function of heat dissipation.
For each part, the supports need to be removed in post-process and the surface needs to be blasted to achieve the desired surface quality.

DMLS - AlSi10Mg
Aluminium alloy



DMLS - 1.2709 (MS1)
Tool steel



DMLS - 1.4404 (316L)
Stainless steel

VO000
AlSi10Mg alloy - roughing

VO000
Tool steel - roughing

VO000
Stainless steel - roughing

VO001
AlSi10Mg alloy - polishing

VO001
Tool steel - polishing

VO001
Stainless steel - polishing

Basic metal finishing

In modern industry and manufacturing, metal finishes play a key role in achieving optimum material properties. Our basic metal finishes include sandblasting, vibratory tumbling, heat treatment and machining. These metal finishing methods are a key step in achieving optimal results and ensuring the long-term performance of materials in a wide variety of applications. Each treatment has its specific use and contributes to the improved properties and aesthetic appearance of metal products.

Sandblasting

To achieve a smooth surface and eliminate any remaining powder, we utilize corundum particles during the sandblasting process.

Vibratory tumbling

The goal of surface preparation is to enhance performance and remove defects before electroplating or painting.

Heat treatment

The microstructure and material properties are affected. The process takes place at defined temperatures and times.

Machining

To obtain machining precision, improve mechanical properties and surface quality, we use a 5-axis CNC center.

Metal surface finishing

Metal surface finishing are procedures used to enhance the metal materials properties, safeguard them from external factors, and customize them for specific uses. These treatments can be administered to a range of metals and alloys and are tailored to meet the specific demands and product or material specifications.

Our offered metal finishing options:

Nickel plating
Adding a layer of nickel on the part's surface to prevent corrosion and abrasion.
This also enhances its hardness and potentially improves its electrical conductivity.

Anodizing
Aluminium can form a durable oxide layer that protects it from corrosion and damage when exposed to metal acids such as sulphuric acid.

VO001-EX000
Anodizing - roughing

VO000-EX000
Anodizing - polishing

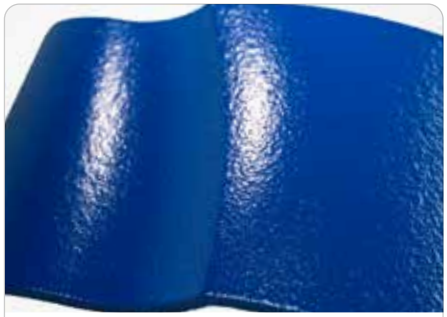
EX000
Anodizing - raw material

VO001-Ni000
Nickel plating - roughing

VO000-Ni000
Nickel plating - polishing

Ni000
Nickel plating - raw material

Aluminum components painting



ML014 (AlSi10Mg)

Base Galvinol
+ Polyurethane paint

ML001-ML014 (AlSi10Mg)

Base Body 960 + filler
Challenger + Polyurethane paint

ML014 (AlSi10Mg)

Base Body 960
+ Polyurethane paint

ML001-ML015 (AlSi10Mg)

Base Body 960 + filler
Challenger + Epoxy paint

ML015 (AlSi10Mg)

Base Body 960 + Epoxy paint

ML033 (AlSi10Mg)

BASF paint

ML001-ML033 (AlSi10Mg)

Base Body 960 + filler
Challenger + BASF paint

ML033 (AlSi10Mg)

Base Body 960 + BASF paint

OB000-ML015 (AlSi10Mg)

Milled surface + base
Body 960 + Epoxy paint

Note: Colours may vary slightly on your monitor. The metal surface is raw if not otherwise stated.