IBV HUNGÁRIA

Lighting and Plastic Processing

WE GET PLASTIC IN SHAPE

www.ibv.hu

ABOUT US

IBV Hungaria Lighting and Plastic processing company was founded in 1993 in Kiskunfélegyháza (120 km south from Budapest) as a subsidiary of the German IBV Holding GMBH. Our 2 main activities are the production of our own developed industrial luminaries with high IP-rating for fluorescent tubes or equipped with LED modules, as well as the manufacturing of GRP-based (glass fibre reinforced polyester) products designed in cooperation with our partners from different industry areas.

More than 95% of our production volume is sold on international markets in more than 60 countries of 5 continents. Feedback from our customers continuously acknowledges the excellent price-performance ratio of our products, proving the high level of competency of our staff. During the last years several multinational companies transferred their plastic processing acitivity to our site. We satisfy the high expectations from our clients both in thermoplastic and thermoset technology.

OUR MISSION

CUSTOMER FOCUS

The customer is the focus of all our activities. Our goal is to meet our customers' requirements at the highest level of quality. We primarily consider those risks and opportunities that can affect the conformity of products and services and can influence customer satisfaction.

ENVIRONMENT

In addition to the quality of the product, our company also places special emphasis on the protection of the environment and the development of an environmentally conscious way of thinking.

CONTINUOUS IMPROVEMENT

We identify our weak points and improvement areas by analyzing and evaluating our activities and processes. Our goal is to prevent occurance of errors, ensure the stability of our processes, the quality of our service activities as well the continuous improvement of our environmental performance.

COMMITMENT

We are committed to the professional development of our employees and to the training of their quality and environmental awareness, enabling us to work at an ever-improving quality efficiently, economical and on an environmentally conscious way.

MILESTONES

1993
Foundation of IBV Hungaria Lighting and Plastic Processing Company as a subsidiary of IBV Holding

1997–2000
Investments:
- 9000m² plant extention
  2000t press machine
  CNC controlled PUR sealing equipment

Thermoplastic technology start

2004
Machine capacity increase in thermoplastic production

2005
P.I.M.C technology launch

2010–2013
6.600 m² plant extention

Machine capacity increase in thermoset production

2014
Silicon sealing technology launch

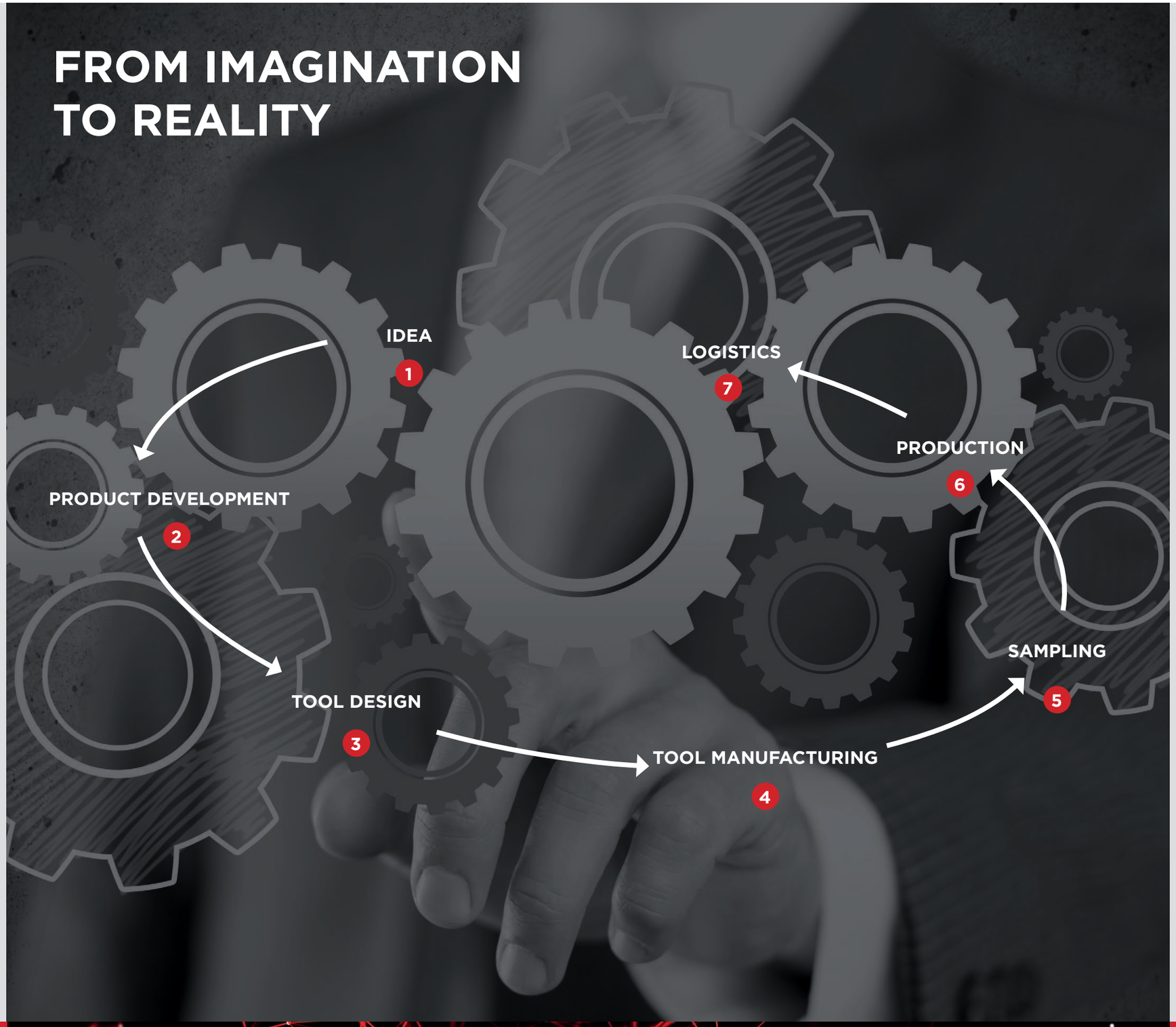
2018
BMC (Bulk Moulded Compound) technology naturalization

2020
Further investments in machinery

Large workspace plastic milling machine
Injection machine
Profile co-extruder machine

IBV HUNGÁRIA Lighting and Plastic Processing

FROM IMAGINATION TO REALITY



IDEA 1

- Thinking together
- Feasibility study

PRODUCT DEVELOPMENT 2

- 2D/3D documentation
- 3D printing
- Plasticisation
- Test production

TOOL DESIGN 3

- CAD / CAM

TOOL MANUFACTURING 4

- CNC milling
- Laser welding
- EDM
- Finishing

LOGISTICS 7

- Deliveries to 60 countries in 5 continents
- 5600m² warehouse

PRODUCTION 6

- Compression moulding with 37 machines up to 2000t clamping force
- P.I.M.C (Powder InMould Coating) technology
- Injection moulding up to 1300t clamping force
- Extrusion
- Sealing with silicon and PUR foam solution
- Milling
- Assembly

SAMPLING 5

- Sampling
- Process capability study
- Machine capability
- Documentation

COMPRESSION TECHNOLOGY

THERMOSETS

A thermoset composite compound is based on unsaturated polyester or vinyl ester resins, fillers and fibre reinforcement. Catalysts, stabilizers, mould release agents, thickeners, pigments and other functional additives are utilised to enhance the properties of the thermoset material, designed to offer superior mechanical properties, excellent electrical and fire protecting characteristics, as well as “Class A” surface appearance and low density characteristics. Its colour can be adjusted to customer needs nevertheless to achieve perfect aesthetic look P.I.M.C technology to be applied.

At IBV Hungaria Kft the most common appearances of thermoset material are SMC (Sheet Moulding Compound) and BMC (Bulk Moulding Compound)

SMC APPEARANCE

A ready to mould glass-fibre reinforced polyester material primarily used in compression moulding.

The material is available in rolls or paper boxes. Both sides are protected with foil (film) that prevents from evaporation of styrene, which is first removed by using a customized cutting machine and then cut to proper size.

CHARACTERISTICS

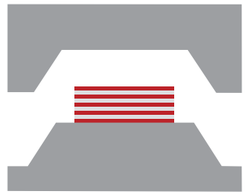
Material	Steel	Al Mg	Thermoplastics	SMC&BMC
Customizing	---	---	+	+++
Corrosion resistance	---	---	++	+++
Low weight design	---	+++	++	+++
Fire resistance	+++	(++)	---	+++
Stiffness	+++	++	--	+++
Water absorption	+++	+++	---	+
Paintability	+++	+++	--	+++
Temperature resistance	+++	++	---	++
Mass colouration	---	---	+++	+++
Recyclability	++	++	++	+
E-Permeability	---	---	+++	+++
Eco efficiency	--	---	O	++

COMPRESSION TECHNOLOGY

Compression moulding is the transformation technique which is most commonly used for SMC and BMC moulding. This technology is an ideal choice also when large-scale products need to be manufactured.

The press tool is a two-sided, hardened or chrome-plated manufacturing tool. Heating of the mould can be provided by steam, oil or electricity. Special shapes and undercuts are formed by hydraulically moved inserts (sliders).

At IBV Hungária Kft. we use hydraulically operated press machines with a vertical structure (down: fixed machine table; top: moving side), capable of exerting a compressive force from 200 to 2000 tons



Initial position

Final position

POWDER COATING

P.I.M.C. technology can be used if we want to produce a high quality product in one step (without post-painting, varnishing) or the goal is to achieve “CLASS A” surface quality (body elements, sanitary ware, furniture elements, stadium / train public transport vehicle seats). It is based on the P.I.M.C. powder that is sprayed onto the surface of the tool heated up to 140-150 °C prior to the pressing process.

The aesthetic surface made by the P.I.M.C process is better than those ones made with coloured SMC / BMC. Further advantage is that contrary to other post coating processes it is scratch- and chemical-resistant.

Powder coating application

Insert SMC into press

Press in

COMPRESSION MOLDING

As one of the largest users of glass fiber reinforced polyester (SMC) in Europe, our company processes more than 3,200 tons of raw materials per year. With our fleet of 37 presses (with a closing force of 200 to 2,000 tons), we are capable to manufacture the desired product in a wide range of sizes.

SMC is used in areas where light weight but high strength and resistant components are also required.

Thermoset - Compression moulding		
Clamping force	**Machine table size**	**Quantity**
(tons)	(mm)	(pcs)
200	2400 x 1100	2
250	1610 x 800	5
400	2350 x 1000	4
400	1900 x 1500	4
500	2400 x 1000	1
500	2500 x 1500	1
550	2200 x 2000	1
630	2100 x 1250	14
1000	2600 x 1800	2
1250	2300 x 1800	1
2000	3000 x 1800	2

APPLICATION FIELDS

ELECTRICAL SEGMENT

APPLICATIONS:
- Lighting canopies
- Cabinets and meter boxes
- Fuses & switchgears
- Low- and medium voltage devices

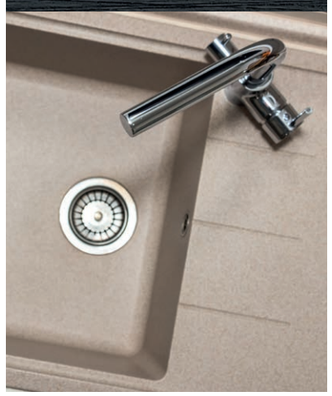
PERFORMANCE:
- Dimensional accuracy over a wide range of temperatures
- Excellent electrical insulating properties
- Flame retardant and low smoke system
- Self coloured and fully pigmentable to a wide range of colours
- Corrosion resistance
- Halogen free formulation
- Maintenance free

ENERGY SECTOR

APPLICATIONS:
- Inverter cabinets
- Electric charger houses
- Battery lids
- Electric car charging station (inner and outer application, vandal proof design)

PERFORMANCE:
- Dimensional accuracy over a wide range of temperatures
- Excellent electrical insulating properties
- Self coloured and fully pigmentable to a wide range of colours
- Corrosion resistance
- Halogen free formulation
- Maintenance free

SANITARY



APPLICATIONS:
- Sink
- Bath tubs
- Shower trays
- Toilet seats

PERFORMANCE:
- Corrosion and abrasion resistance
- Thermal resistance
- Resistance to chemical agents

MASS TRANSPORT

APPLICATIONS:
- Seats
- Interior fittings, fixtures and cladding
- In tunnel seating and furniture
- Electrical insulators

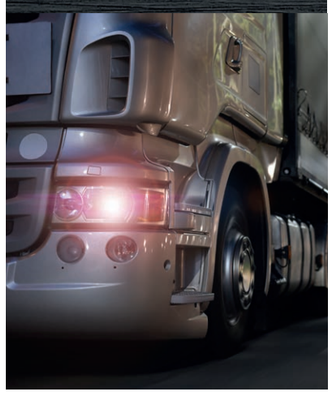
PERFORMANCE:
- Permeability of electric waves
- Retention of dimensional properties
- Excellent sound dampening properties
- Corrosion and abrasion resistance
- Flame retardant and low smoke system
- Mass-colorization

AUTOMOTIVE

APPLICATIONS:
- Body panels
- Visible panels
- Headlamp reflectors
- Engine under covers, Technical front ends, Under the hood parts
- Semi structural parts
- Filter housings

PERFORMANCE:
- Permeability of electric waves
- Retention of dimensional properties
- Excellent sound dampening properties
- Corrosion resistance
- High heat and chemical resistance
- Class A surface
- Speed to market
- Weight savings

COMMERCIAL VEHICLES



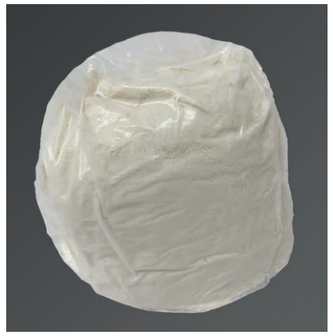
INJECTION TECHNOLOGY

BMC (BULK MOULDING COMPOUND)

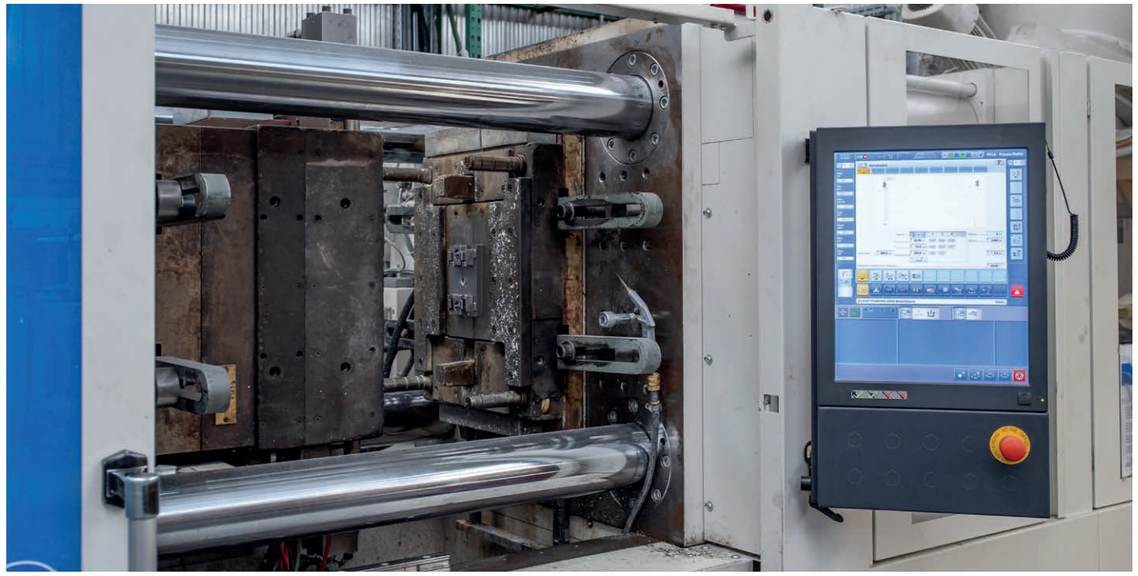
BMC is a ready to mould glass-fibre reinforced thermoset polymer material primarily used in injection moulding. Based on mixing strands of chopped fibers, styrene and initiator and filler mixed with unsaturated thermoset resin. It is produced in bulk or in logs.

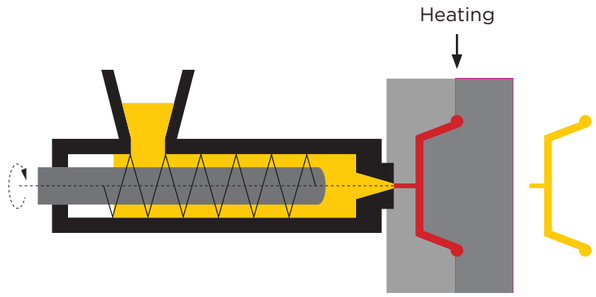
BMC TECHNOLOGY

Due to the shorter fibre length, BMC is well suited to injection moulding where it flows freely into the smallest cavities, making it suitable for the most intricate parts. The higher inorganic filler load guarantees very high temperature resistance and an extremely good surface appearance, which is why BMC is commonly used for headlamp reflectors and appliances requiring good aesthetic and high heat performance.



At IBV Hungária Kft, we provide to our customers excellent quality and mechanical properties on a 200-ton Krauss Maffei injection molding machine. With this machine, we can produce a number of products made by thermosetting injection moulding, which we intend to provide for different industry fields.





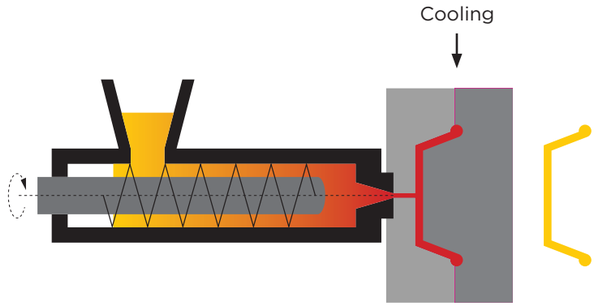
APPLICATIONS:
- Iron heat shields
- Coffee machine components
- Microwave ware
- White goods components

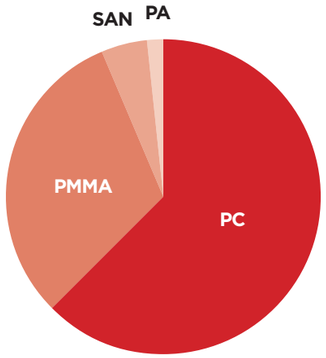
PERFORMANCE:
- Thermal resistance: BMC material will not deform
- Resistance of chemical agents
- Mass colouring
- Compliance to food contact requirements
- Electrical insulation
- Fire resistance
- Glossy and smooth surface finish

DOMESTIC APPLIANCES

INJECTION MOLDING

Injection moulding is a continuously developing and expanding industry. The technology is widely used for plastic products manufacturing with the most precise process possible. The principle is that the polymer melt, which has been heated to a low viscosity liquid by heating above the melting point - is “injected” at high speed through a narrow inlet into a closed die - and in this closed die any shaped (3D) part, practically waste-free, with plastic shaping, high dimensional accuracy is formed.





MATERIALS USED

Injection molding is a high-precision and highly productive component manufacturing. The size limits of the manufacturability are extremely wide. The weight of the manufactured product can be several kilograms on an injection molding machine of the right size. It is mainly used for thermoplastic polymers, typically PE, PP, PS, PVC, PMMA, ABS, POM, PC, PA, SAN nevertheless the process developed for materials can also be used in the processing of non-thermoplastic polymers.

INJECTION MOULDING PLANT

At IBV Hungaria Kft. we started injection process of various thermoplastics in 1997. Since then we have manufactured several hundred types of products from different raw materials. Our manufacturing output by now has reached the 1,5 million pcs of products per year. We have experimented suitable technical plastic mixture to the complete satisfaction of our customers several times. Over the years, we have expanded our machine park in accordance with demands, so that by now we have 8 injection molding machines and their service equipment at the disposal of our customers in the closing force range of 25 to 1,300 tons. Working together with several tool makers, we now produce injection pieces that meet all needs.

90% of our production are luminaire components and the rest are other industrial products. Our machinery can be used to produce up to 20 g - 2000 g product weight. As a benefit from the wider partnership that has developed over the years, we provide a complex service to our partners from design to implementation.

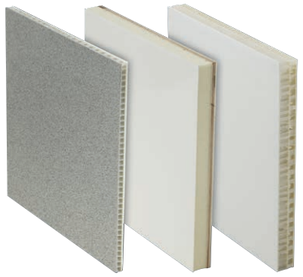
Manufacturer	Clamping force (t)	Fastening points
Engel	1300	2200x1990
Husky	1000	1840x2070
Husky	1000	1840x2070
Engel	900	1850x1810
Engel	90	730x420
Engel	90	730x420
Engel	90	730x420
Engel	25	470x280

EXTRUSION

Extrusion is a widely used continuous plastic molding process in which the raw material can be mixed with plastic dyes, stabilizers and other additives and then added to a mold. In addition, it is possible to create profiles with extrusion. In case of direct forming, the forming tool is located immediately after the extruder. This process is called extrusion molding.

Many profile shapes can be produced by extrusion. Tubes, sheets, fibers, coated wires, and other shaped materials can be made by such a process.

SANDWICH PANEL PRODUCTION



CORE MATERIAL
PUR / PIR
XPS
PET
PP Honeycomb
Plywood birch
Metal

GRP SANDWICH PANEL

The fiberglass-reinforced plastic, hereinafter referred to as GRP is a multilayer prefabricated component consisting of a thermal insulation layer and / or load-carrier layers of different thicknesses and a GRP reinforcement around it.

GRP ARMAMENT CAN BE

High-gloss or mat in different colours

Surface structure can be smooth, squared fabric structure or anti-slip grinsor even carbon fiber

Very high tensile strength
With special coatings: UV resistant, extra abrasion resistant or even antibacterial

BENEFITS OF USING GRP SANDWICH PANEL

The advantage of the GRP armored panel over the traditional metal armored sandwich panel is the corrosion resistance and the increased load-bearing capacity characterized by different types of core materials. The structure of the sandwich panel can be 100% customized according to the functionality and the application way.

The tensile strength of the GRP armament is several times higher than of the steel in terms of self-weight, so that is highly resistant to various forms of stress, weather and abrasion.

The GRP sandwich panel can be sized in the same way as wood with simple hand tools.

One-component MS Polymer adhesives adhere extremely well to the GRP surface.

Prefabricated e.g. glued application of corner profiles not only ensures quick installation and aesthetic appearance, but also has an extremely strong bond.
Tightening screws can be easily applied with wood, metal or PET reinforcements integrated in the GRP sandwich panel.

MANUFACTURING PROCESS

At IBV Hungária Kft., we have been producing GRP sandwich panels since 2018. Colleagues with decades of GRP sandwich panel manufacturing experience are involved in the design and management of the technology and help our customers find the most appropriate solutions.

The process of sandwich panel production starts with cutting GRP sheets from rolls and sizing the core materials and integrated inserts. The prepared components are built on a 9 x 3 m vacuum table where a special 2-component PU adhesive is applied between the layers. Thereafter, a vacuum compresses the individual layers together until the adhesive has set, thus ensuring the flatness and uniform thickness of the sandwich panel.

MACHINE PARK

- Sheet cutting machine
- Core and panel cutter
- Vacuum table
- 5-axis milling machine

APPLICATIONS:

Automotive industry
- Caravans
- Vehicles with box body

Logistic applications
- Suitcases
- Boxes

Building construction
- Side walls

- Design of walls and surfaces with high hygienic properties

IBV HUNGÁRIA
Lighting and Plastic Processing

IBV HUNGÁRIA
Lighting and Plastic Processing

H-6100 Kiskunfélegyháza
Csanyi út 71.
HUNGARY
Tel.: +36 76 562 100
+36 70 463 2175
Fax: +36 76 562 170
E-mail: sales@ibv.hu
www.ibv.hu