

Too News

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CONTENTS

Measurement Technology

MAHRLIGHTS Autumn 2020 BOSCH GLM 50 C Professional STANLEY TYLON tape measures JBO manufacturer's range

Production Technology

Outstanding aluminium surfaces High performance reaming with BECK Flex-Hone® Stainless steel threading dies NERIOX

Assembly Technology

Cordless screwdriver BOSCH Bit set NERIOX Rechargeable LED torch LED LENSER Angle grinder BOSCH

Standard Parts

One-stop shop for injection moulders! Tampering protection PARRYPLUG® 35% off metal O-rings Levelling elements promotion

Personal Protective Equipment

Clothes for cold and wet days NERIOX the clever alternative New in the STERILLIUM range Safety shoes at lowest prices

Forum

Sauber Motorsport AG -Production of high-end composites

FEATURED



Record for Räikkönen

Antonio Giovinazzi (27) is driving the C39 alongside former world champion Kimi Räikkönen (41). After his Formula 1 debut in 2017, he received a regular spot in the cockpit at Alfa Romeo Racing ORLEN last year. The team is led by the motorsport engineer and manager Fréderic Vasseur.

A remarkable fact: Having raced 83,978 kilometres, Raikkonen has driven the greatest distance of all F1 drivers in history – that's more than twice around the world!





Hybrid drive: The C39 has a 1.6-litre V6 (Ferrari) turbocharged engine and a 120 kW electric motor.

Tools. Next level.

Double anniversary

110 years of Alfa Romeo Alfa Romeo celebrated its 110th anniversary on 24 June 2020. The brand with the serpent in its coat of arms was already at the forefront of Formula 1 at the time of its conception 70 years ago: In 1950, factory driver Nino Farina won the very first race of Formula 1 behind the wheel of the GP race car Tipo 158 "Alfetta". In the same year, the Italian also became the first Formula 1 world champion in history.

Sauber Motorsport AG

Sauber Motorsport AG, which runs and manages the Alfa Romeo Racing ORLEN Formula 1 team, is also celebrating a milestone anniversary: In 1970, Peter Sauber founded PP Sauber AG to build sports cars. The team had the greatest successes in 1989 and 1990: In both years, the Frenchman Jean-Louis Schlesser won both the drivers' and constructors' world championships. In 1989, Sauber won the 24-hour race at Le Mans with the "C9", with a Mercedes engine.



The C39 look with the Alfa serpent and Swiss cross.

Formula 1 – Hinwil is ready for the future

Fréderic Vasseur, team manager of Alfa Romeo Racing ORLEN, gave Brütsch/Rüegger Tools an exclusive interview during the pandemicrelated season interruption.

Since the brand change two years ago, a lot has changed in the racing club. In addition to the crew, which increased from 300 to 500 employees, strategic investments were also made. The most important modernisation relates to the testing area: A new simulator is to support the team in the mid term in order to achieve success in the midfield. The only thing not to change is the racing spirit of Peter Sauber.

Although more than 90 percent of the C39's parts are new, it looks similar to its predecessor. The weight, aerodynamics and details such as the wing set on the chassis were all improved on the 28th Formula 1 car from Sauber.

Internal process and technology optimisations are also crucial in terms of future performance. Thanks to shorter development times, the team has made an important time gain – from the design idea to the implementation on the track, it only takes 12 to 18 weeks.



New: The high-precision simulator supports the engineers in design and the drivers in training





Care is required when finishing 3D printed components.



SMED seminar: Setup time optimisation

The SMED seminars in which you can participate, are very popular with customers of Brütsch/Rüegger Tools! In accordance with the lean method "SMED" (singleminute exchange of dies), you will learn about strategies, procedures and technical aids for reducing downtimes in order to implement them in your own company. The F1 pit stop strategy serves as a prime example for setup time optimisation. Includes a lean quick check in your facility! Information about all events: https://news.brw.ch/en/expert-seminar-workshops.html

Big potential: New simulator

The most important asset for the development of the car beyond this season is the new simulator, whose potential is currently being explored. Fréderic Vasseur explains: "Given the limited test time on the track, we will fine-tune it as a reliable tool for our engineers." Highly precise, it is the ideal training tool for the further development of the car.

As impressive as the simulator appears, it is characterised by its software. The model, which is modelled by the Vehicle Science department, faithfully reproduces the real car. Even before the race starts, the latest design updates can be tested immediately. This also allows drivers to better inspect the routes.

Equipped by Brütsch/Rüegger Tools: Drilling process on the roll cage made of 3D-printed aluminium

Maximum efficiency thanks to 3D printing

According to Fréderic Vasseur, maximum efficiency is also central to production: "For us, additive manufacturing represents a huge step forwards in terms of speed." The 3D printing is no longer only used for prototypes or studies, but also for actual components. In the C39, this includes safety components such as the roll cage. This is 3D-printed from an aluminium alloy and is provided with inserts for threads or connectors.

3D metal printing is the first choice for parts with complex structures which are subjected to high mechanical and thermal loads. Almost without any design limitations, lattice constructions, honeycomb structures, cavities or ducts are produced in an additive manner in the shortest possible time.



Promising start with 3D metal printing: Complex structures can now be produced quickly.

Partnership with Brütsch/Rüegger Tools

For 18 years now, Brütsch/Rüegger Tools has been working together with the tradition-rich racing team. We supply the plant in Hinwil with tools and equipment for both manufacturing and assembly. The most important criterion for Sauber Motorsport is, here too, efficiency. Fréderic Vasseur sums up: "We depend on reliable, fast and flexible partners when procuring technologies, tools and resources."

Alfa Romeo Racing ORLEN thus benefits not only from the delivery capacity of the largest Swiss tool specialist. Brütsch/Rüegger Tools also supports the Formula 1 production in Zurich with specialist knowledge in assembly technology, measurement technology and occupational health and safety.

Brütsch/Rüegger Tools Ltd.

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Measurement technology



MAHRLIGHTS Autumn 2020





The FUTURO Inspect 152378.0060 is the ideal

solution for quick and easy visual inspection. The

video microscope is equipped with a grid zoom, a

stable stand and a separate, height-adjustable

positioning table. The big advantage of the system is

that it can be connected directly to a screen with

A computer or software is therefore not required.

The fast auto focus HDMI camera has an auto focus

with a focus range of about 15 mm. This allows

guick focus adjustment over a wide range, so objects

to be examined can be easily moved under the lens.

HDMI input.

Autumn time is MAHRLIGHTS time. Tried-and-tested hand measuring instruments from MAHR such as caliper gauges, external/internal micrometers and dial gauges, with data output or integrated radio for wireless data transmission. Radio measuring devices give you maximum mobility allowing faster and more targeted measurements. It also includes height measuring devices in 1D or 2D mode as well as the easy-to-use roughness measuring instrument MarSurf PS10 for mobile use.

115130.1010 External micrometer 40EWR 0...25 at a promotional price of CHF 180.00 instead of CHF 242.00 115130.1020 External micrometer 40EWR 25...50 at a promotional price of CHF 238.00 instead of CHF 328.00, valid until 31.10.2020 or while stocks last.

Practical helper

Promotion

The practical caliper gauge attachment FUTURO 124008.3000 fits on almost all digital hand-held caliper gauges and also makes it possible to make special measurements with specific measuring inserts M2.5 (124008/124010). In this way, a caliper gauge can be combined with the optimum measuring inserts, especially when measuring grooves, recesses or in places that are difficult to reach. If required, a digital caliper gauge can be reset with the selected measuring insert.

Q manual



BOSCH GLM 50 C Professional

Automatic storage of the last 30 measured values and a constant. Illuminated, rotating colour display. Angle measurement with integrated 360° inclination sensor. Data transfer via Bluetooth.

160250.0051 Laser distance measuring instrument BOSCH GLM 50 C at a promotional price of CHF 119.00 instead of CHF 200.00.

Further offers can be found in MeasureBoost until 31.10.2020 or while stocks last.

Perpendicular dial gauge Käfer

The vertical dial gauges Käfer have a measuring pin at the back and are read from above. The dial is rotatable and easy to read.

The tolerance marks are adjustable. These models can be clamped to the clamping shaft Ø 8 mm or to the mounting shaft Ø 28 mm. The shaft and measuring pin are made of stainless steel. The measuring inserts with M2.5 connection thread are replaceable. You will find the dial gauges 122450 with a 15% discount in the ToolShop www.brw.ch until 31.10.2020.

Promotion





Manufacturing technology

Outstanding aluminium surfaces



Achieve outstanding surface results in aluminium, aluminium alloys, copper alloys and plastics with the new solid carbide aluminium cutters FUTURO.

Thanks to the high-gloss polished cutting edges and the optimised cutting geometry, optimal chip evacuation is achieved with reduced power consumption. This has a significant positive effect on the surface quality, workpiece accuracy and tool life.

The tools are available from stock as a three-flute cutter with neck 227665, as a three-flute cutter with corner radius 227670 and as a two-flute cutter like before 227650 as well as 227620 with a clamping surface.

High performance reaming with **BECK**

Tough, robust, rugged, inexpensive - that's HSS. The BECK HSS HNC reamer is particularly effective. Up to 4x faster cutting speeds, 4x higher feed rates and double the tool life with 282300 for through holes and 282305 for blind holes should be all the reasons you need.



All this together saves you a great deal of time and money – per hole!



Flex-Hone®

Flex-Hone® tools are used for fine processing and deburring surfaces. These can be used both in processing machines and, conventionally, with drilling machines.

Examples of applications include steel and cast iron 285010 to 285050, coloured and non-ferrous



Simple, clear, reliable and precise, these are the requirements for an edge finder. But the VIPlus 2 337342 offers other

- Large display for better readability on large machines.
- Waterproof: IP67
- Robust & anti-magnetic probe inserts
- Operates in the X, Y and Z directions at the same time · Quick and easy to adjust thanks to new alignment
- technology.
- Mechanical end stops to protect the measurement unit.





compelling arguments:

STANLEY TYLON tape measures

The extremely robust and solid tape measure from the well-known manufacturer STANLEY boasts an impact-resistant and rubberised housing. The extra-strong tape with the riveted end hook ensures maximum durability. The tape is completely coated with a special Tylon polymer protective layer. It is available in 3 m, 5 m and 8 m lengths. Go to www.brw.ch under the article number 159556 and save an incredible 25% on all 3 tape lengths until 31.10.2020.

metal **285000**, hardened steels, ceramics and glass 285062, steel and INOX 285064.

It is vital to use an emulsion, for example 520029, or a honing oil **519160**.



MAGAFOR DUO-mag

The Magafor double-sided NC centre drills are unique, not only in terms of reducing costs: 1 DUO-mag = 2 NC centre drills.The special tip geometry facilitates insertion into the

workpiece. The reinforced tip provides better stability, which, in combination with the Red-X coating, increases tool life.

The drills are available in the following variants: 60° (251120), 60° long (251122), 60° extra long (251124), 90° (250240), 90° long (250242), 90° extra long (250244)

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Cordless screwdriver BOSCH



Bosch GO Professional, small, particularly versatile cordless screwdriver for assembly in particularly confined spaces. Mechanical gearbox with 5 torque levels, 1/4" hexagon socket, strong spindle lock for manual or powered work, electronic brake with instant stop for perfect screw control. Double activation: Activation method can be chosen at will — tool can be activated either by simply placing it on the screw or by switching it on manually. Ergonomic design for perfect handling when working in different positions. Clockwise/anti-clockwise rotation. Lithium-ion battery can be recharged via integrated micro-USB 2.0 port.

565500.0100

Battery voltage: 3.6 V

Battery capacity: 1.5 Ah

Included in delivery: Cordless screwdriver BOSCH GO Professional, 25-piece bit accessory set, PH2 impact screwdriver insert, USB cable, USB charging adapter, L-BOXX Mini, at a price of **CHF 94.00**

Whiteboard

The whiteboards are magnetic, can be written on and are very easy to wipe when dry. Robust working surface made of plastic-coated sheet steel, suitable for frequent use.

547000.0100 Standard, with aluminium shelf, 1000 x 1500 mm, **CHF 105.00 547000.0200** Mobile, with aluminium shelf, rotatable 1000 x 1500 mm, grey, **CHF 749.00**

Additional dimensions available on request.



Pedal waste bin

STEP — 45 litres, sturdy pedal waste bin made of 100% PP.

Dimensions WxDxH: 420 x 330 x 600 mm

551825.0100



Bit set NERIOX

Bit set NEIOX, in a practical plastic box.

437645.0100

With 30 bits 1/4" C 6.3, 1 holder for socket wrench inserts 1/4" – C 6.3 and 1 quick change bit holder 1/4" E 6.3, for the price of **CHF 19.90**

Standard parts

One-stop shop for injection moulders!



In addition to a full range for mould design, Brütsch/Rüegger Werkzeuge AG also offers a comprehensive range for the injection moulding process: From material handling to nozzle heating, cleaning and filtering, right through to machine accessories, we provide a full range of attractive products. All from a single source! A selection at a glance:

- Material conveyor hoses in PU or PVC in different variants
- Metal separators, super neodymium magnets
- Heating tapes stainless and standard/temperature sensors
- Hot runner controllers, industrial connectors
- Surface-friendly cleaning tools, blade scrapers, plastic release gun
- PTFE corrugated tube with stainless steel braiding, for temperatures up to 260°C
- Manifold made of anodised aluminium in three sizes and 24 variants, plus ball valves
- Flow regulator and indicator for liquid media as well as pressure and leak tester
- NanoMoldcoating[®]
- Hose markers

And much more!

Tampering protection PARRYPLUG[®]

PARRYPLUG[®] is a locking element that prevents screw connections from being tampered with. The specially constructed axial ribs ensure a secure, defined press fit, thus preventing tools from interfering with the internal drive. The PARRYPLUG[®] is available for hexagon socket screws in sizes SW3, SW4, SW5, SW6 and SW8.

864390 Tampering protection PARRYPLUG for hexagon socket screws.

Now available at promotional prices!



35% off metal O-rings!

With the self-reinforcing design (thanks to a hole on the internal diameter, the internal pressure is the same as in the system, which aids the sealing behaviour, made of stainless steel (1.4541)), we offer you a metal O-ring which reliably seals at a maximum operating pressure of 6–3000 bar. The continuous



Promotion

round cords in NBR (nitrile) **860170** and FKM **860172** in many cord diameters from our Urdorf warehouse. Visit our ToolShop <u>www.brw.ch</u> under Standard Parts / Machine Components / Sealing Elements or enter "Round cord" in the search field. Select the desired cord diameter and the appropriate length. Dimensions that we do not have available from stock can be obtained within a few working days.



Colour anthracite, for the price of **CHF 36.90 551825.0200** Colour white, for the price of **CHF 36.90**



operating temperature is -200°C to +280°C. With order no. 860160, you get 35% off on all dimensions. Valid until 30 November 2020. Buy now and reap the rewards!



Battery-powered LED torch LED LENSER

LED LENSER P7R Core, exceptional lighting power coupled with modern technologies in an elegant and lightweight housing. **8 light modes**:

Low-Power, Mid-Power, Power, Boost, Position, Flashing, S.O.S., Strobe.

561410.0100

Luminous flux (lm): 1400/1000/440/15 Degree of protection: IP68

Included in delivery: Battery-powered LED torch LED LENSER P7R Core with one battery pack, hand strap and magnetic charging cable at the price of **CHF 82.00**



Slide locks

Our wide range of slide clamps, slide retainers and locks for mould making has a lot to offer!

See for yourself and check out the attractive promotional prices in the ToolShop <u>www.brw.ch</u> under "Mould Making Accessories / Slide Retainers" and see how much you can save! All current standard part promotions are under <u>www.brw.ch</u> / Standard Parts / Promotions. It's worth it!

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Personal Protective Equipment



Clothes for cold and wet days



This autumn, too, Brütsch/Rüegger Tools will put together the most popular workwear garments for you from the complete range of workwear at sensational prices on a special promotional poster. See for yourself and be sure to order the clothes poster in the Occupational Health and Safety department. You will find softshell jackets with or without lining, jackets for heavier duty applications and colder days, jumpers in all colours, protective clothing for good visibility, rain protection for wet weather and work clothes for every use. We have the right thing for everyone and for every job.

Of course, we also have new offers for you, such as the softshell jacket NERIOX (536408, 536409 and 536410). The sporty softshell jackets are water- and wind-resistant, with full-length zips and removable hoods. Another new offer from the NERIOX range is the model Robin (536415 black/536416 navy). Chin guard, inner cuffs with thumb holes and a warm hood make the Robin the ideal jacket for very cold days.

Would you like to try it on? Would you like the jackets to be embroidered or printed? Brütsch/Rüegger Tools is here to help you with everything from selection to personalisation. Call us on +41 44 736 63 55. We will be happy to advise you.





Stainless steel threading dies NERIOX

The 7-piece (M3-M12) threading die set 265113 made from nitrided HSS-E and including a case is especially suited for stainless steels.

Take advantage of this promotion until 31.10.2020 at a promotional price of CHF 149.00

JBO manufacturer's range

The JBO gauge range consists of thread go/no-go, gauges, thread tolerance plug gauges and also tapered gauges with measuring level as well as various thread go/no-go ring gauges.

Numerous metric thread gauges from M1 to M58, as well as WW, UNF, UNC, EC, are available from our BRW warehouse in Urdorf (165150...165310). The complete range from Johs. BOSS GMBH & CO. KG including thread depth gauges (165530...165540) can be found in the ToolShop www.brw.ch under the category Manufacturer ranges as well as in the catalogue JBO!

The manufacturer operates a large warehouse with over 10,000 different thread dimensions and tolerances for quick delivery.

Promotion



NERIOX the clever alternative

The NERIOX occupational health and safety range is constantly growing! Just in time for the winter season, the range was expanded to include more winter jackets. We would like to highlight the winter gloves Snowflake 530022 with a partial nitrile coating and Snowflake Plus 530023 with a full coating.

The glove is particularly suitable for working outdoors and gives the wearer optimal protection from the cold. NERIOX - the alternative with good prices without compromising on quality or safety.



Supply difficulties? We can help!

The demand for disposable protective equipment has increased drastically due to the coronavirus crisis. The situation has become very urgent, especially for disposable gloves. Delivery dates have been postponed until mid-2021.

For this reason, at Brütsch/Rüegger Tools we have purchased various alternatives to help you with disposable products in this difficult time. Do you have a shortage? Call us on +41 44 736 63 55. We're happy to help!







Levelling elements promotion

Take advantage of our bargain promotional prices in levelling elements, delivered from the Urdorf warehouse! Until 30.11.20, our levelling products are available in a variety of designs at reduced prices. Examples:

555025 levelling articulated foot, 555000 levelling round element, 555070 plates for vibration isolation

The levelling elements promotion and other reduced products in the standard parts range can be found at www.brw.ch/standard-parts/promotions. Buy now and reap the rewards!

Angle grinder BOSCH

Angle grinder X-LOCK set consisting of: Angle grinder BOSCH GWX 17-125 S with X-LOCK quick-change system, 400 cut-off wheels for INOX X-LOCK BOSCH Ø 125 mm, 100 surface grinder discs X-LOCK BOSCH Ø 125 mm and BOSCH bag.

597340.0100 for the promotional price of CHF 599.00 instead of 1327.00 Valid while stocks last



New in the STERILLIUM range Brütsch/Rüegger Tools has further expanded its range of disinfectants. With STERILLIUM, we have succeeded in adding one of the major brands in the field of disinfection and hygiene to our product

Hand disinfection STERILLIUM gel pure 537291, STERILLIUM classic pure 537292 and surface disinfection Bacillol® AF **537293**. Do you have any questions about hygiene and disinfection? Call us!

range. In the initial phase, we offer you the

well-known products from the Urdorf warehouse:



Safety shoes at the lowest prices

We make room for the new models and offer you a selection of safety shoes at one-off low prices!

534867 Safety shoe S3 Futuro Light 2, at **a promotional** price of CHF 49.00 instead of CHF 93.00 534864 Safety shoe S1P Futuro Classic Air, at a promotional price of CHF 29.00 instead of CHF 67.00 **534870** Safety shoe S1P Futuro FC 02, at **a promotional** price of CHF 29.00 instead of CHF 73.00 **534869** Safety sandals S1P Futuro FCS 01, at **a promotional** price of CHF 29.00 instead of CHF 74.00

For more models at one-off lowest prices, visit www.brw.ch



REEBOK safety shoes

REEBOK - the safety shoe in which the insole adapts to your foot thanks to memory foam. The aluminium protective cap and the metal-free midsole keep the shoe light without compromising safety. The Oxford models (534035, 534036) and Trailgrip (534049) are S1P shoes and are suitable for working in dry areas. The Cambridge (534242) S3 version is recommended for outdoor use.



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OUR PARTNER





SERVICE BOX



ToolBook, Edition 19, The tool catalogue with the complete range on 3200 pages: CH-DE 999002.0300 CH-FR 999002.0400



NERIOX booklet, 2019 edition CH-DE 999065.0100 CH-FR 999065.0200







Formula 1

Manufacturing expertise on fibre-reinforced plastics

The Sauber Group company, Sauber Motorsport AG, has been operating its own production of composite components in Hinwil for over 30 years. A total of around 45 people are involved in the various production processes of lightweight materials. They work in the departments "Cleanroom & Cutting", "Suspension" and "Assembly".

Deep knowledge

The "Sauber C9" was the first structural car built in the Zurich Oberland. It was used in the sports car world championship (WSC) from 1987 to 1990 and in the 24-hour Le Mans race. Since then, the Formula 1 specialists have developed comprehensive expertise, which now benefits Alfa Romeo Racing ORLEN.



The highest process reliability: Before curing in the autoclave, the carbon parts are again carefully vacuumed.

Main building of Sauber Motorsport AG in Hinwil.

Sauber Motorsport AG – production of high-end composites

Carbon fibre reinforced plastics (CFRP) are the most widely used material in Formula 1 cars. More than 85 percent of racing cars are made of this lightweight, high-strength and heat-resistant special material. In addition to the monocoque, the body and structural components, these include, for example, the wheel suspensions, the brake discs, the steering wheel and the steering column.

Racing engineers continue to optimise the mechanical and thermal properties of the CFRP with unwavering enthusiasm. A visit to the composites production at Sauber Motorsport AG in Hinwil shows that there is still potential to be explored in this area. Year in and year out, the company is experimenting with new composite materials. Using software, new structures are simulated before they are produced and tested as prototypes.

As on the track, speed is essential for the design updates on the C39. The carbon parts produced in spectacular time are delivered immediately to the wind tunnel or to the pits.



Flap for the rear wing: The pre-impregnated fabric (prepreg) is in the lower mould



Before curing, CFRP components are packed in non-woven fabric and vented in a vacuum bag



For fine surfaces: Both forms are compressed and excess resin is squeezed out



A true lightweight: A carbon fibre steering column made by Sauber Motorsport.

Designed exactly according to a 3D model Thermal treatment

Finally, the curing under pressure follows at up to The design of the CFRP requires creativity. Whether The large proportion of manual processes 135 degrees in one of the four autoclaves present in requires excellently trained personnel, a flawless the plant. The thickness of the component and the guality assurance approach and high-guality resin type determine the process duration. The speed equipment. Both the Cleanroom & Cutting of heating and cooling in the gas-tight pressure vessel department, in which the carbon parts are cut has a further influence on the finished component. and laminated, and the Assembly department use a variety of different tools and devices from Depending on the requirements of the component, further pre-assembly work is required. For example, Brütsch/Rüegger Tools: Whether it is for the the flap (see pictures) mounted on the top of the rear laminating and bonding of aluminium or titanium wing has a hollow space in which solid inserts are inserts, the realisation of plug connections or for inserted precisely to measure. For stability solutions fine work such as grinding, drilling or thread cutting. Among the cutting tools, our own brand FUTURO of this kind, foams or corrugated cardboard are used. Like all processes, Sauber Motorsport internally is also proud to be used by Formula 1 pro teams. In addition to cordless drills, screwdriver sets and manufactures the moulds and tools required for CFRP production - mostly consisting of easily assembly aids, the teams of Sauber Motorsport machined plastic or aluminium. It would be too have been using a wide range of products risky to rely on external expertise. The recurring from Switzerland's largest and fastest industrial design updates demand a lot of productivity supplier for many years. The two large industrial from the composite teams. They produce up to cabinets filled with ToolShop items were happily 2000 tailor-made components per year. shown to us during the tour of the company!

FUTURO booklet, 2017 edition CH-DE 999050.0500 CH-FR 999050.0510



Joining Technique, Edition 2019 CH-DE 999040.0900 CH-FR 999040.1000

with few or many layers, with unidirectional or interwoven fibres, the variety of composite structures is as great as the associated innovation potential. Expertise and practical experience are also essential in the production of CFRP. After cutting the flat sections on the large cutting unit, the pre-impregnated "fabrics" (prepregs) with synthetic resin are carefully layered on top of each other according to engineering plans. All processes are carried out under cooled clean room conditions so that no heat reactions are triggered that could affect the fabric of the fibre mats. The prepared structures are then prepared for the hardening process. To ensure that the resin is evenly distributed and no air pockets are formed, the laminate structure is vented by means of a vacuum pump. Excess resin is also absorbed. Both measures improve the laminate properties and guarantee the highest strength.

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