

RÖSLER[®]
finding a better way ...



Deflashing Machines for Industrial Use

There are many good reasons why companies all over the world rely on Rösler deflashing technology.

The Hunziker® trademark is synonymous with technological leadership in the industrial deflashing of thermoset and highly filled thermoplastic mouldings. These machines are developed and produced by Rösler Schweiz AG, which maintains a world-wide sales and servicing organization.



We offer our customers innovative products and services, comprehensive processing expertise and a sound understanding of system interrelations.

Our strength lies in user-oriented solutions that ensure maximum quality and efficiency for our customers, giving them that crucial competitive edge. You benefit from an extensive range of single-source deflashing machines for thermoset mouldings and for the semiconductor industry. Our portfolio ranges from simple, manually operated machines to fully automated interlinked systems. Thanks to their high deflashing performance, the machines can also be used to treat (deflash and clean) magnesium, zinc and aluminum die-castings.

Tell us what your requirements are, and our development and test center will work out the economically and technically most suitable solution.

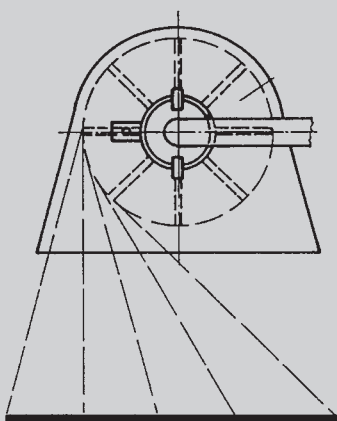


Process Technology

Deflashing systems

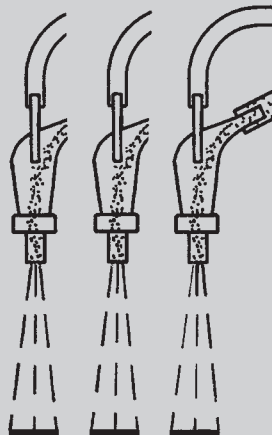
Blast wheel technology

To accelerate the deflashing medium to the high velocity required for efficient deflashing, it is most common to use blast wheel technology. Blast wheels accelerate the deflashing medium by exploiting the centrifugal force. Compared with blast guns, their specific energy consumption is very low. Blast wheels provide the high coverage desirable for most applications.



Blast gun technology

Contrary to blast wheels, blast guns are used for applications in which deflashing is desired in defined locations only, or in which only small quantities of deflashing medium are required. Blast guns are used in combination with blast wheels to deflash areas difficult to access, e.g. for the deflashing of bores or pockets.

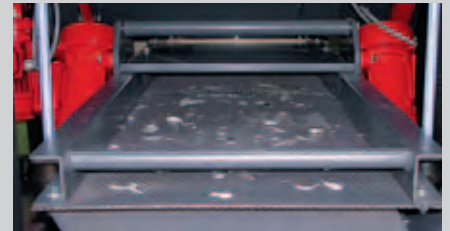


Blast-wheel and blast-gun coverage in comparison

Deflashing medium reconditioning

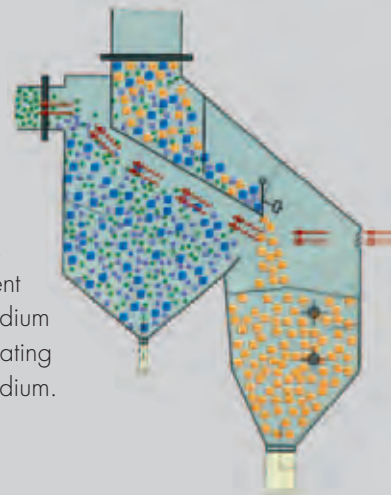
Screening unit

Multi-stage screeners and/or airflow separators continuously remove flash, flash particles, fibers and spent deflashing medium from the deflashing medium being circulated within the machine.



Cascade separator

A cascade separator continuously removes flash, flash particles, fibers and spent deflashing medium from the circulating deflashing medium.



Deflashing medium replenishment



Automatic, sensor-controlled replenishment of consumed deflashing medium ensures consistency in deflashing medium quality (operating mixture).

«Vital features ensure the quality consistency and process reliability necessary for thermoset deflashing.»

Dust collector/dust extraction

Exhaust air is freed of dust by special, highly efficient filter cartridges. An automatic backcleaning system for the filter cartridges (the machine need not be halted) permits 24-hour operation.



Extraction from the deflashing zone

Dusty air is extracted from the deflashing chamber. Depending on the application in question, various methods are used to recover serviceable deflashing medium and return it to the process.



Cyclone separator

Antistatic systems



To prevent dust from re-depositing on the deflashed components due to static charges, all our machines are equipped with an antistatic fluid spray system. Antistatic fluid contained in a tank is sprayed into the deflashing chamber via nozzles. As an alternative to the manual water/antistatic metering unit, we also offer an automatic metering system (connection to water mains, selection of mixing ratio via the OP).

Component cleaning

Cleaning/blow-off of the deflashed components is tailored to the type of components in question.



Design with compressed air



Design with blower

Safety features



Control unit

- Electronic control system with central monitoring
- Status and malfunction indicators
- Compliance with the relevant CE standards
- Easy to install, with plug-in connections between the machine and the control unit

Safety monitoring



EMERGENCY STOP switch



Bulk deflashing machines



SBSK loop belt machines



SBSK 1201



View into the loop belt trough (metal profile) for small parts

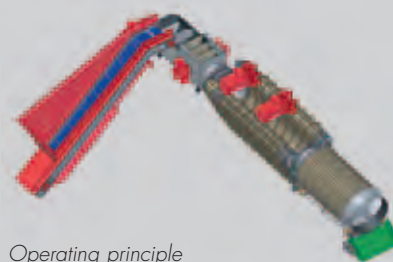


View into the loop belt trough (lamellar-type rubber elements for gentle component transport)

The components are transported to the loop belt of the deflashing machine via a feed conveyor and a vibrating feed chute. The special (rubber) loop belt is constructed as a screw conveyor with turnover cams, and permits transport of the components at a defined speed through the deflashing zone. The components are deflashed by way of one

or more blast wheels under which the components are transported and turned continuously.

The components are then freed of any adhering deflashing medium in an integrated exit drum, where they continue to be turned. The components discharged from the machine are largely dust-free and ready for subsequent operations.



Operating principle of the SBSK machine

RMBC tumble belt batch machines



RMBC 05.1-S

Plastic components that can be tumbled are processed batchwise in a compact deflashing machine with one blast wheel. An endless perforated rubber belt conveyor limited laterally by rotating disks forms a deflashing chamber that can accommodate a maximum workpiece load volume of 30–100 dm³. The movement of the tumble belt turns the workpieces continuously during the deflashing operation and then frees them of any adhering deflashing medium.

Key features Loop belt machines

1–3 blast wheels, continuous operation

For the automatic bulk deflashing of

- large volumes
- small to medium-size components

Typical applications:

- Housings, covers and sockets for electrical installation material
- Housings and covers for circuit breakers and contactors
- Pan handles
- Ashtrays



WTS Tunnel machines

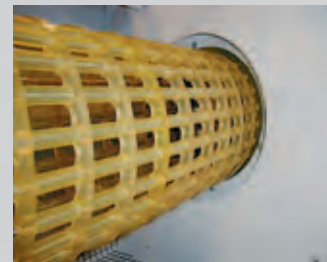


WTS 2302

The tunnel deflashing machines were developed primarily for the deflashing of thin-walled and fragile components. The tunnel transport system advances fragile components successively and at a defined speed through the deflashing zone, turning them over continuously to ensure that they are deflashed from all

sides. A given distance is maintained between individual components to prevent them from touching each other and becoming damaged.

More robust components are supplied to the machine in bulk via a feed conveyor with a hopper.



WTS principle

Key features WTS tunnel machines

1–2 blast wheels, continuous operation

For the automatic deflashing of
– fragile, medium-size components in succession
– less fragile components in bulk

Typical applications:

- Meter housings and terminal strips
- Fragile switch components
- Iron handles and other handles of complex shape
- Terminal housings
- Multiple covers
- Fragile miniature circuit-breaker housings

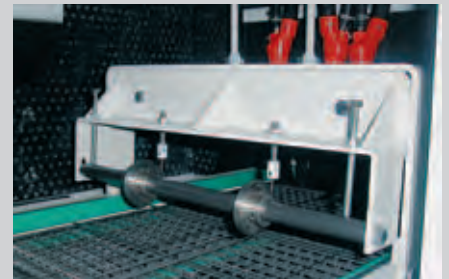


WTS 2201

Conveyor machines

Through feed deflashing machine type SAB 470-SK

SAB 470-SK 2+2



Deflashing chamber with component holders

The SAB 470-SK 2+2, a high-performance deflashing machine with 4 blast wheels, is suitable for the continuous deflashing of large volumes of thermoset mouldings. Two blast wheels above and two below the conveyor system ensure intensive and uniform treatment. Additional advantages of the machine are easy maintenance due to the blast wheels being located outside the deflashing chamber and efficient cleaning and reconditioning of the deflashing medium. The deflashing medium is cleaned via a vibratory screening unit that removes flash and undersized deflashing media, and reconditioned via a cascade separator.

Key features SAB conveyor machines

2 – 8 blast wheels, continuous or indexing operation

For the automatic deflashing of

- small to high volumes
- small to large-size components
- delicate components

Typical applications:

- Components made from unsaturated polyester moulding compounds (BMC/SMC), such as headlight reflectors, meter housings and other large-area components
- Components for irons, oven door handles
- Switch housings and covers, fragile miniature circuit breaker housings



High-performance blast wheel technology



Feed inlet area / wire mesh conveyor



Deflashing medium reconditioning via cascade separator



High-performance conveyor machines for automated manufacturing

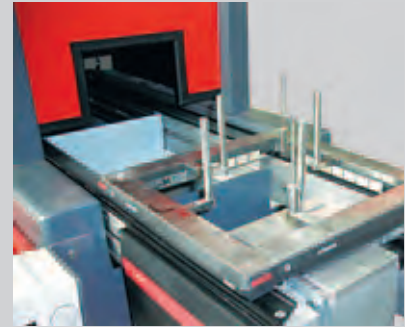
These high-performance conveyor machines are typically used to treat very thin-walled, fragile housings that must on no account be damaged. The machines can be equipped on all sides with three to five blast wheels of different sizes. Such machines are used, for instance, in production lines with fully automated workpiece removal from several injection moulding machines, pre-deflashing, calibrating/gauging and routing to the next processing stage, e.g. deflashing, assembly and packaging.



SAB 300-S4 conveyor unit with magazine

For fragile components that are inserted individually into the magazine by a handling system or robot.

Photo: Machine with four blast wheels for deflashing up to 4800 miniature circuit breaker housings per hour.



Conveyor unit with component-holder system

For fragile components that are placed individually onto a component holder by a handling system or robot. Conveyor systems from different manufacturers can be used.

The machine is used for a wide range of comparable component types.

Compact conveyor machine type SAB 370-SK



SAB 370-SK 1+1

The Hunziker® SAB 370-SK conveyor unit is a small and compact machine that offers the same advantages as the large machines of this series.

- Belt width 370 mm
- Alternatively one or two blast wheels located above and below the conveyor
- Vibratory screening unit
- Continuously adjustable parameters
- PLC control system
- Requires little space

Manufacturing cells

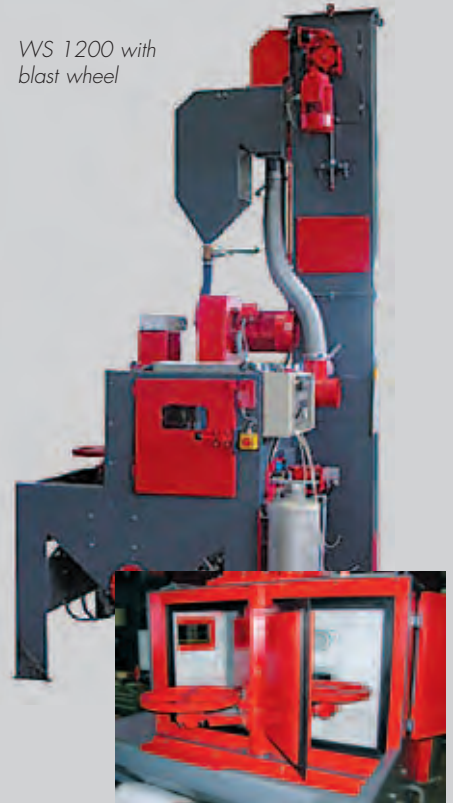


WS 1200 swing table deflashing machine

WS 1200 with blasting guns



WS 1200 with
blast wheel



Integrated in a manufacturing cell



A deflashing machine intended specifically for the gentle deflashing of diverse thermoset mouldings and for variable capacities in one and the same machine. In a dual-step operation involving a swing table, the mouldings are deflashed individually or in groups on 2 opposite satellites. While one satellite is being loaded or unloaded, the parts on the other satellite are deflashed. The modular system permits different configurations to suit individual requirements. Depending on the type of components, two methods are available for the fully automated blasting and deflashing process – blasting with injector nozzles for very selective deflashing, or the economical blast-wheel system. The satellites can be equipped with holding fixtures for up to 6 parts.

Deflashing
chamber with
blasting and
blow-off
nozzles



The deflashing machine can be integrated smoothly into a manufacturing cell without compromising operational safety. For example, in instances where different parts are produced in one or more injection moulding machines or by compression moulding and then have to be deflashed automatically

Key features WS 1200 swing table deflashing machine

Deflashing machine that can be equipped alternatively with 1–2 blast wheels or up to 8 blasting nozzles.

For automatic deflashing of

- delicate components in a manufacturing cell
- an entire mould cavity

Variable equipment for the stations:

- one turntable per station
- rotating satellites for 1 – 6 part-holding fixtures per station
- satellites mounted in the direction of rotation

*«Manual or semi-automatic operation, or fully automated manufacturing cells?
We have the right solution for every application.»*

SAS 1400 turntable unit



Turntable with satellites

Blasting stations for manual or automatic deflashing



Blasting cabinet of various sizes



ST blasting cabinet with perforated platform



ST blasting cabinet with rotary basket

As a rule, turntable units are designed for the processing of a particular workpiece with an individual degree of automation. For this reason the SAS series is based on a modular system that permits economical solutions both for manual feeding, semi-automatic and fully automatic operation. Linearly operating vertical and horizontal nozzle-moving devices increase the degree of automation in the units.

The SAS turntable unit can be tailored to the customer's requirements by way of further accessories such as a separate air-wash separator, pressure blasting equipment or handling devices.

Key features SAS turntable units

for up to 10 blasting guns, the table is turned incrementally, for manual feeding, semi-automatic or fully-automatic operation.

For the deflashing of

- small to medium-size components
- delicate components

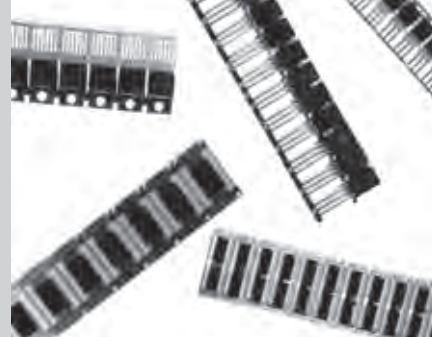
Typical applications:

- Engine covers
- Pump housings and wheels
- Suction manifolds
- Thin-walled miniature circuit breaker housings
- Brake pistons



RWTS 1000: Deflashing machine for 1–2 satellites per station and dual-step-operation. Can be equipped with up to 6 blasting nozzles. Various options available.

Semiconductors



SAB 40/3000 lead-frame deflashing machine

SAB 40/3000



Exit zone with
blow-off system

The lead frames are loaded continuously onto the machine's belt conveyor. The conveyor transports the lead frames through the deflashing chamber between the suction blast guns mounted on either side of the conveyor. Cams on

the conveyor prevent the lead frames from slipping on the conveyor. The lead frames then pass through a blow-off zone where air jets remove deflashing medium still adhering to the lead frames.

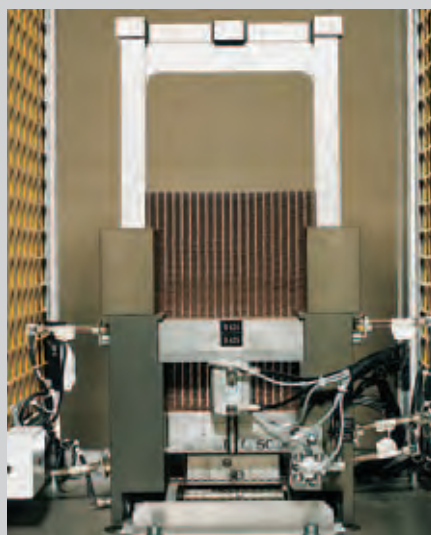
Key benefits

- Proven, high-capacity machine design for fully automatic operation and early payback (ROI).
- Low-maintenance, dry deflashing system, little force exertion thanks to use of low pressures, consistently operating suction blast guns, little wear and easy operation
- System capacity of up to 1800 lead frames per hour
- Precise edge-to-edge deflashing, with masking where required to prevent damage to plastic packaging
- Adjustable guide rails to accommodate lead frames of various dimensions
- Suitable for all deflashing media typically used in this application, such as thermosets, polyamides and other plastic deflashing media, natural deflashing media deriving from nutshells or fruit stones, powdered brass, etc.

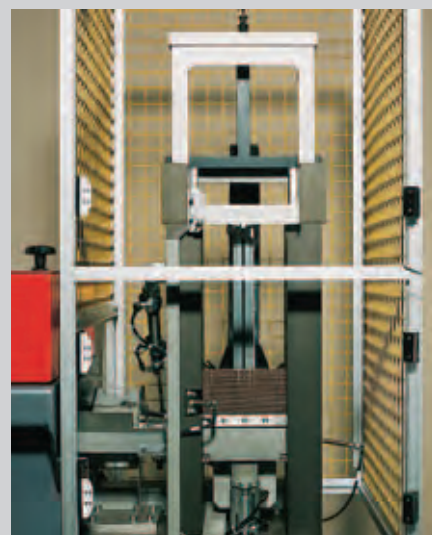
Automatic loading and unloading

The loading module serves for automatic, successive loading of lead frames from magazines (buffer magazines supplied by the customer) onto the belt conveyor. The module is equipped with additional lead-frame storage capacity so as to permit smooth and continuous operation while an empty buffer magazine is being replaced.

The unloading and restacking module transfers the lead frames discharged from the machine into an empty magazine.



Loading module



Unloading and restacking module

Special machines and supplies

Machine construction

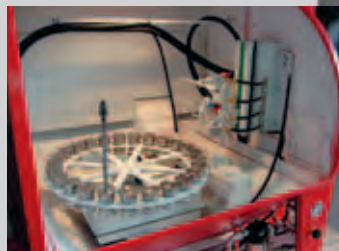
For special demands of the processing enterprises Rösler constructs and builds in addition to the standard series also special machines.



Roboblaster



SKI 1200 with rotary basket



ST blasting cabinet with satellites



WSA 2000 with sliding gate



Additional equipments



Exit drum moveable



Feed conveyor

All Rösler machines can be adapted and individually automatised with an extensive offer of standard equipments. Available are:

- Feed conveyors
- Transport conveyors
- Handling systems
- Pre deflashing units
- Ionization plants
- Dust collector
- etc.

Service

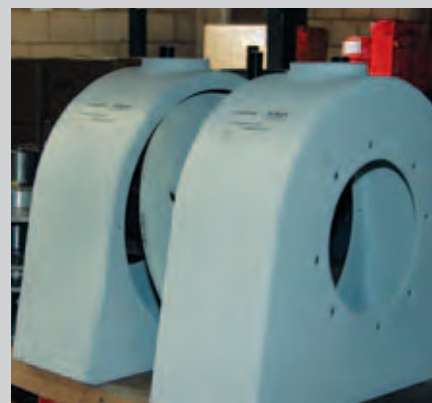
Consultation

The necessary deflashing, or postworking, of thermoset mouldings is a factor to be considered right from the design stage. Suitable mould design, in particular, can prevent the occurrence of parting lines that either cannot be deflashed at all or else will leave visible traces. Consultation and close cooperation with both component and mould designers is therefore essential. If components cannot be automatically and completely deflashed following their fabrication, secondary finishing costs will arise that are out of all proportion to the production costs.

Quality

Before they leave our factory, all our deflashing machines are subjected to comprehensive testing. As a rule, they are tested with the customer's components that were used earlier during trial runs. Ideally, the customer is present for the preliminary acceptance test so as to witness the perfect quality of the new deflashing machine. Flexibility: Should changes in customer requirements or new insights necessitate alterations to the machine at short notice, these can be implemented before the machine is delivered. Customer wishes in respect of transport and installation are also discussed at the time of the preliminary acceptance test. Our experienced technicians and process engineers are available for purposes of installation, commissioning and training, as well as for servicing and maintenance.

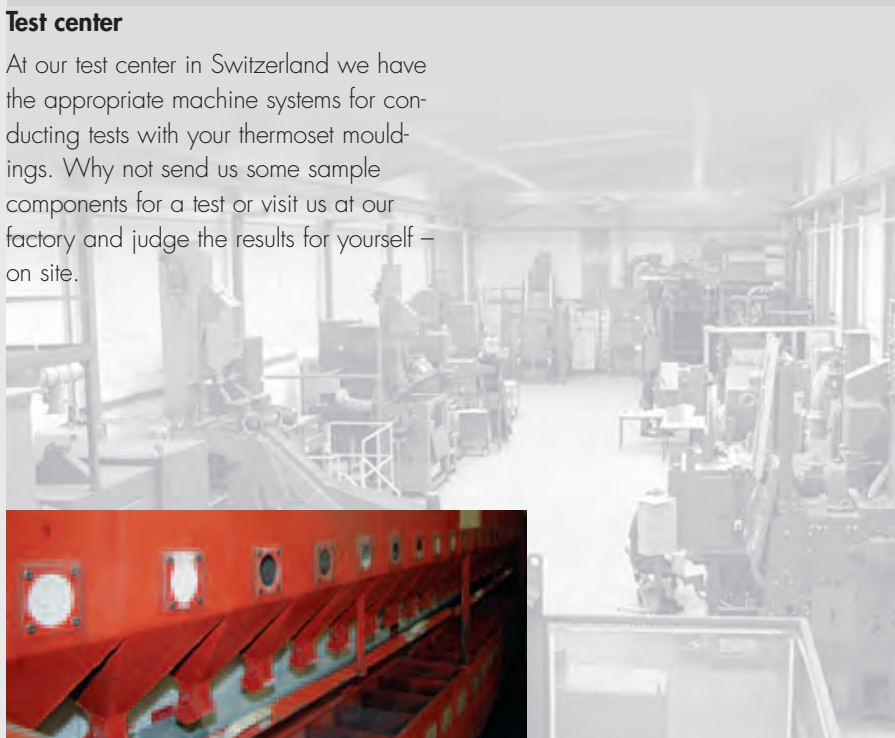
Spare parts and warehouse



As a system supplier for thermoset deflashing, we have a large stock of spare parts and can provide major components ex-warehouse.

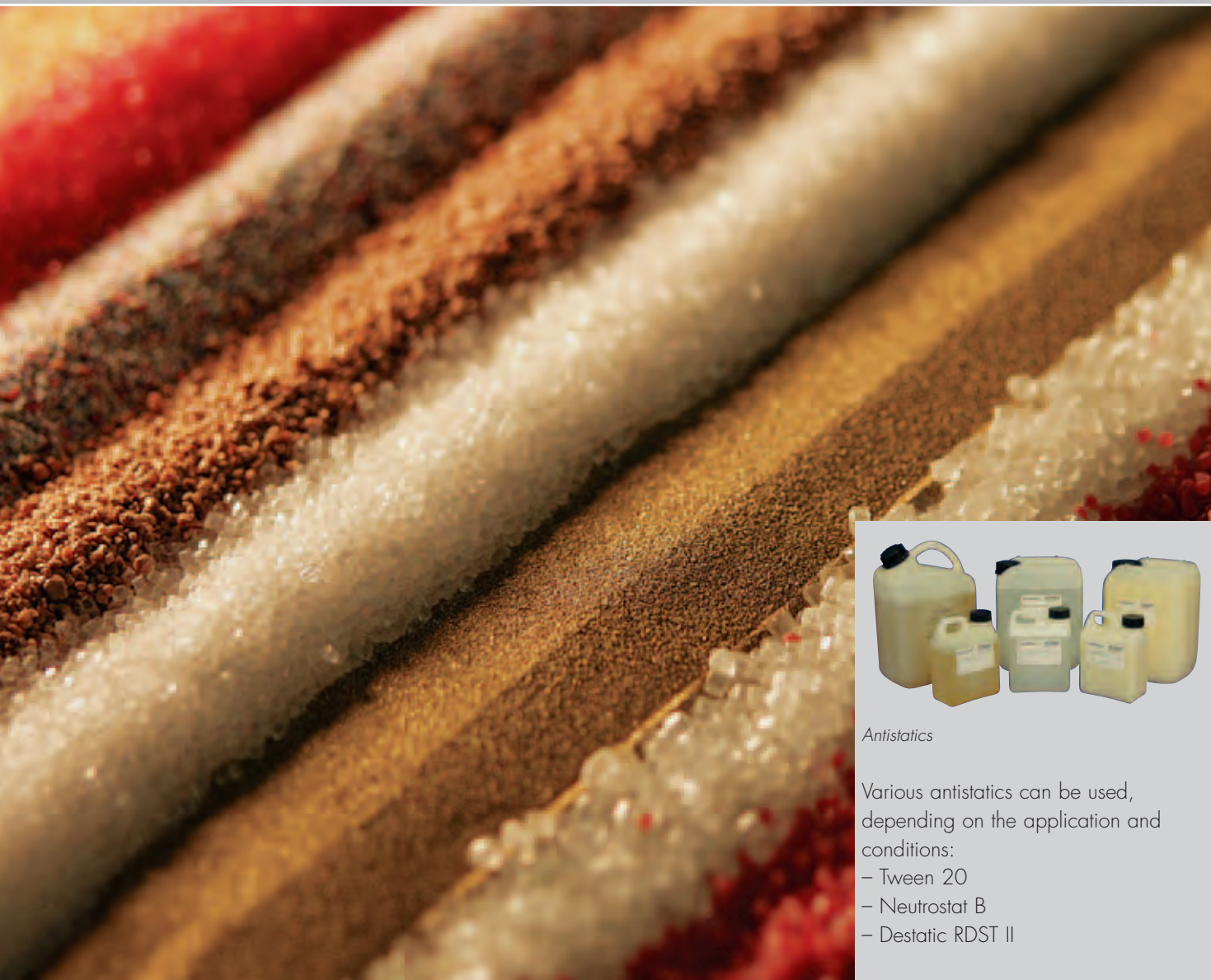
Test center

At our test center in Switzerland we have the appropriate machine systems for conducting tests with your thermoset mouldings. Why not send us some sample components for a test or visit us at our factory and judge the results for yourself – on site.



Consumables

Antistatics and deflashing media



Antistatics

Various antistatics can be used, depending on the application and conditions:

- Tween 20
- Neutrostat B
- Destatic RDST II

Deflashing media

The wide range of potential applications calls for a correspondingly large number of different deflashing media. Long service life, low wear and the shortest possible deflashing time are key requirements imposed on the media.

Ongoing comparative tests, deflashing trials and scrutiny of the media in on-site installations ensure constant refinement

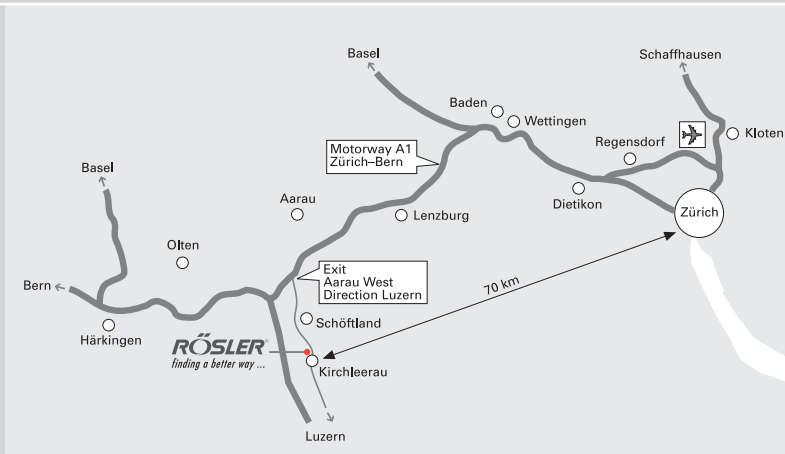
and are the reason that what was once a simple «ancillary medium» has now become a major factor in reducing costs.

Also we can supply you with the most suitable deflashing media. Our deflashing machines can be operated with the following deflashing media.

- Polyamide (PA), cubical or cylindrical
- Polycarbonate (PC), cylindrical

- Filled polyamide deflashing media for special applications
- Natural products from nutshells or fruit stones (cherries, apricots, etc.)
- Powdered brass
- Thermoset material

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