



BETTER BASICS
LABORBEDARF

INFORMATION

ON THE RESISTANCE IN THE FACE OF

AGGRESSIVE MEDIA



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Photo: Example of a SmartRack® module:
Storage box insert – for sample containers and
test tubes

Due to its good resistance to most aggressive media in the laboratory, the **SmartRack®** and the **SmartIntegrate** products are well equipped for use in everyday laboratory life, since most contaminations are short-lived and are eliminated immediately for the purpose of proper occupational safety standards.

If prolonged exposure to aggressive media occurs, the component surface may become discoloured, although this will not affect the functionality of the components. Additionally, thanks to its modularity, individual modules or components can easily be replaced if necessary.

Resistance to aggressive media

Overview

All materials used in the SmartRack® and SmartIntegrate product line have been carefully selected to ensure high resistance to aggressive media. The components are fully autoclavable and suitable for use in demanding laboratory environments. Please observe the specified care and cleaning instructions to maximise the service life and functionality of the products.

Components	Halogen-free solvents	Halogen-containing solvents	Weak Acids/Bases	Strong acids/bases	Autoclavable
Black powder-coated components (frames, metal components of the tub and the hybrid modules)	✓	✓	✓	✓	✓
Black anodised nut rails and polished SmartRack® frame (SmartRack® primus)	✓	✓	⦿	⦿	✓
Green plastic parts (feet, slide rail handles, modules, plastic components of the tub and hybrid modules)	✓	✓	✓	✓	✓
SmartFrame and SmartEdge made of stainless steel, add-on parts made of stainless steel	✓	✓	✓	✓	✓

Legend:  Resistant  Short-term Resistant

The SmartRack® and the solutions of the SmartIntegrate product line consist of a frame, the slot rails and modules suspended in the slot rails. Four different types of materials are used:

1. **Black powder-coated aluminium parts**
(frames, metal components of the tub and the hybrid modules)

These components are aluminium parts, which are protected by a powder coating of epoxy resin. The powder coating is resistant to a wide range of halogenated and halogen-free solvents from the laboratory sector. However, prolonged exposure of the solvents to the powder coating should be avoided. The powder coating is resistant against contact with acids/bases. The components are completely autoclavable.



Resistance to aggressive media

2. **Black anodised slotted rails and polished SmartRack® frame** (SmartRack® primus)

The slot rails are black anodised aluminium components and the SmartRack® primus frame is polished aluminium. Both are resistant to halogenated and non-halogenated solvents. Aggressive acids/bases can damage the anodised layer or the surface of the SmartRack® primus. The elements are fully autoclavable. To gently clean the anodised aluminium slotted rail or the SmartRack® primus frame, we recommend using a pH neutral, odourless hand cleanser. Ensure that the hand wash is odourless and contains no perfumes, greases or additives. Clean the parts by hand and rinse thoroughly under clean water.

3. **Green plastic parts** (feet, slide rail handles, modules, plastic components of the tub and hybrid modules)

These components are 3D-printed (laser-sintered) components made from the high-performance plastic polyamide-12 (PA12). The components are resistant to halogenated and halogen-free solvents such as chloroform, dichloromethane, chlorobenzene, hexane, methanol, ethanol, acetone, ethyl acetate and toluene. The components are stable to most acids and bases, but concentrated acids such as concentrated nitric and sulfuric acid lead to damage to the components during prolonged exposure. After prolonged exposure to aggressive media, discolouration of the components may occur, but this is only superficial and does not limit their functionality. The components are completely autoclavable.

4. **Stainless steel parts** (stainless steel frame, stainless steel L-profiles of the SmartEdge, stainless steel components of some SmartRail models)

These components are made of high-quality stainless steel (e.g. V2A/1.4301 or V4A/1.4401) and are characterised by their excellent corrosion resistance. Stainless steel is resistant to a wide range of aggressive media, including halogenated and halogen-free solvents as well as strong acids and bases. Resistance:

- **Solvents:** The stainless steel parts are resistant to organic solvents such as chloroform, dichloromethane, chlorobenzene, hexane, methanol, ethanol, acetone, ethyl acetate and toluene.
- **Acids and bases:** They are resistant to most acids and bases, even in concentrated form. Exceptions are particularly aggressive media such as concentrated hydrochloric acid or hydrofluoric acid, which can attack the surface.

Cleaning and care: The stainless steel components are fully autoclavable and are therefore ideal for sterile applications. We recommend using mild cleaning agents. Avoid aggressive, chloride-containing cleaning agents, as high chloride concentrations can damage the passive layer of the stainless steel and promote corrosion. After cleaning, rinse the components thoroughly with clean water and dry them carefully to avoid water stains or corrosion.

Better Basics Laborbedarf - Unlock Your Lab Potential



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Dr. Sebastian Stein

Sebastian Stein was born in Meissen and is now shareholder and production manager of Better Basics Laborbedarf GmbH. He completed his studies in polymer chemistry at the TU Dresden with a doctorate in the field of self-healing elastomers.

Today, he is responsible for additive manufacturing at Better Basics Laborbedarf. Here, the following 3D printing processes are currently used: SLS, FDM and SLA/DLP.

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YOU ARE INTERESTED IN OUR PRODUCTS OR YOU HAVE FURTHER QUESTIONS?

Get in touch with us:

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You can also find more information and news about our product innovations at www.Better-Basics-Laborbedarf.de

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Our request to you

A product like our SmartRack® is only as good as its users. With our roots in the Leibniz Institute for Polymer Research Dresden, our company Better Basics Laborbedarf stands for the tradition of "Made in Germany" quality. We are committed to this quality label for German companies, which stands for high innovative strength. Even beyond our product catalog, the same applies for us at Better Basics: Just contact us if you have ideas for extensions or improvements or if you notice something in your daily laboratory routine that we should optimize right away.

We want to create the best possible working environment for you in the laboratory and we are grateful for any comments and inspiration. We can jointly shape the future of laboratory work by cooperating with scientists and researchers. Just like you, we're always looking for a way to make our world a little better every day.

Impress:

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