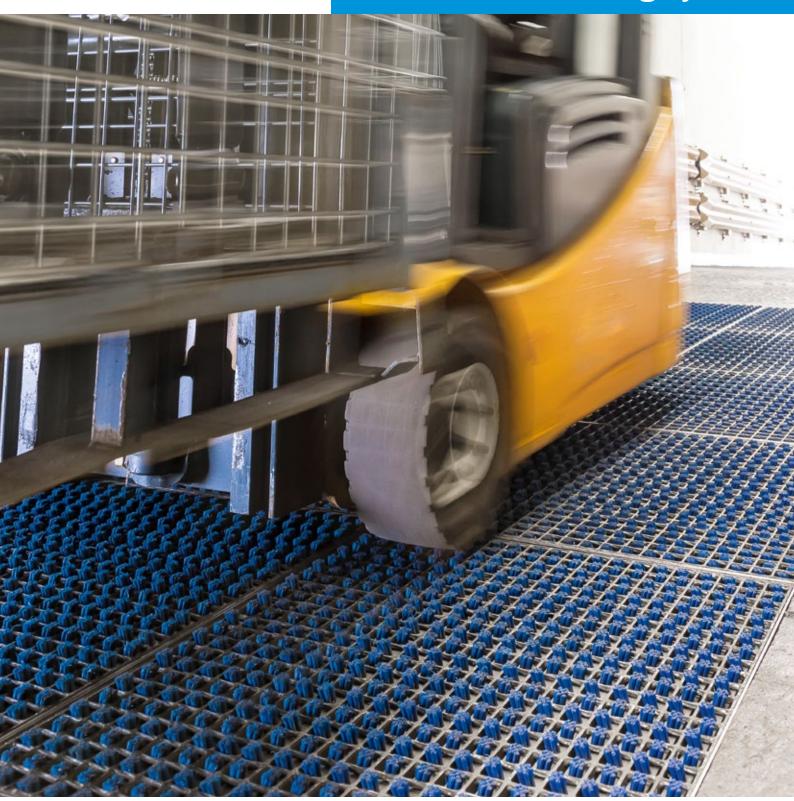




## **The Innovative Cleaning System**





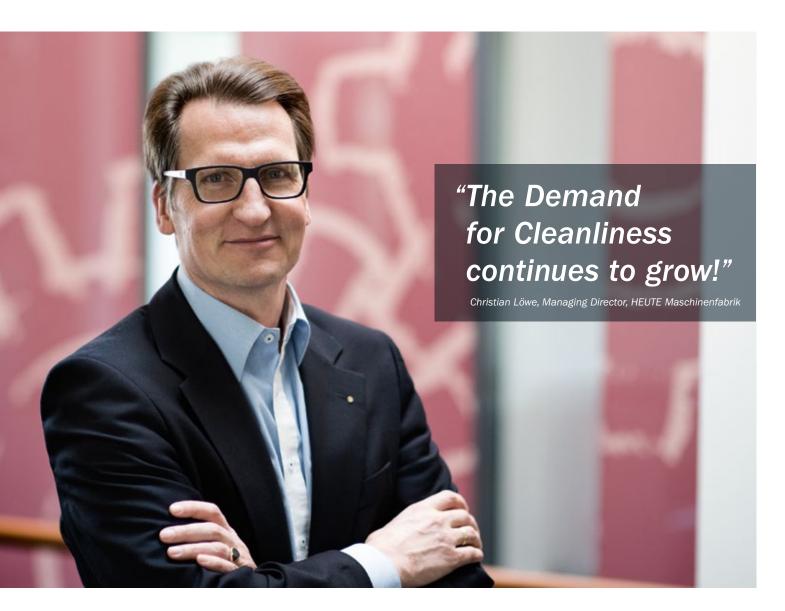
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In order to perfect today's modern manufacturing processes, you need to avoid downtime and maintenance issues. Cleanliness is a key factor for the future of smart factories throughout production, assembly and warehousing. The truth is that in order to manufacture the highest quality product, you need to avoid contamination and eliminate any kind of dirt as it can cause issues and will be costly to remove down the line.

Our company has focused on clean facility solutions right from the start. In addition to our world renowned shoe shine machines, we have been manufacturing innovative sole cleaning equipment as well as our tire cleaning system ProfilGate® for decades.

In close communication with our various global customers, we constantly strive to

improve our products and are challenged daily with new projects. The invention of our ProfilGate® solution continues this trend and follows our tradition of being a close industry partner when it comes to facility cleanliness.

One examples is our new ProfilGate® st-series, which has been optimized for smaller casters and wheels in high traffic frequency areas. This makes it perfect for tugger trains as well as automated guided vehicles (AGV). The all new k-series has been especially developed together with our many food customers and is not only food safe but can be used with extremely small rollers.

Welcome to the world of ProfilGate®, the versatile system for all your material handling devices and the ultimate control for additional cleanliness! Christian Löwe, Managing Directorr, HEUTE Maschinenfabrik

## **Technical Cleanliness** is a Question of Method



No matter if you unload from a dirty delivery truck or take dirt inside your facility via material handling devices - most receiving areas build up dirt, debris and dust from tires and wheels. The next set of transport vehicles takes the dirt further and deeper into your storage and production areas till it causes issues inside your facilities.

By strategically placing ProfilGate® throughout your building, you can now capture up to 90% of dirt - which is otherwise attached to your wheels, casters and tires - before it migrates and enters your production facility.



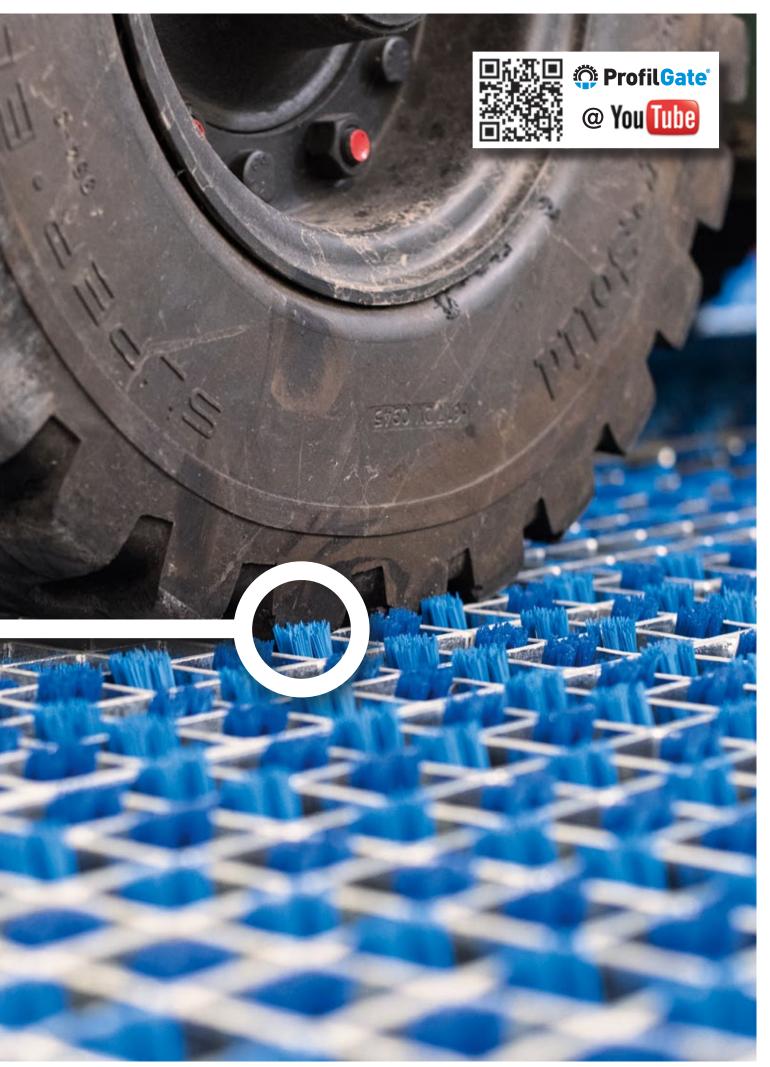
# Finally clean with ProfilGate®

ProfilGate® is the perfect solution for the reduction of dirt, which is transported into your facility by vehicles or people.

The innovative system cleans tires, casters and wheels as well as shoe soles, purely mechanically while driving or walking over.

The patented brush strips actively work due to their inherent tension and angled bristle position. ProfilGate® works 24 hours a day without any external energy supply needed.

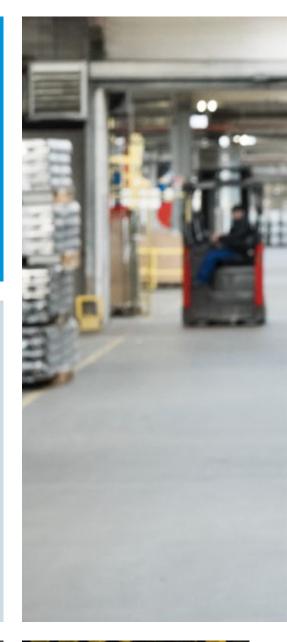


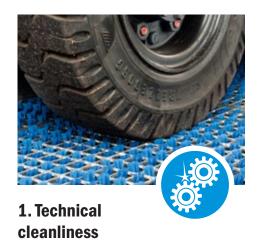


# **5** Good Reasons for ProfilGate®

Improved cleanliness, better quality and reduced maintenance cost are some of the many advantages of ProfilGate®.

Your company can demonstrate its customers, suppliers and legislators that it is willing to improve cleanliness beyond the regulated hygiene and safety requirements.





In most cases, the improved indoor cleanliness through the use of ProfilGate® is not only visible at the entrance, but as well deep in production. Your employees, customers, suppliers and official authorities recognize at first glance that you are actively achieving the highest level of technical cleanliness in your company.



## 2. Improved health and safety for your employees

Reduced dirt will create a better air quality environment while saving filter cost. The cleaner and dryer floors will reduce the risk of accidents, since the slip hazard is minimized. Another major improvement is that forklifts are less likely to spin or slide.



ProfilGate® can prevent contamination of surfaces, which could lead to complaints otherwise. In this way, contamination is avoided within both – production and storage. The results are a stronger image, less breakdowns and less depreciation – so your product and brand quality is

improved.





ProfilGate® collects automatically the dirt in every entrance or driving zone. As a result, less debris and dust is transported into the facility. This extends the cleaning cycles by about 40 %! More important, your sweepers only clean during usage, whereas ProfilGate® cleans all day!

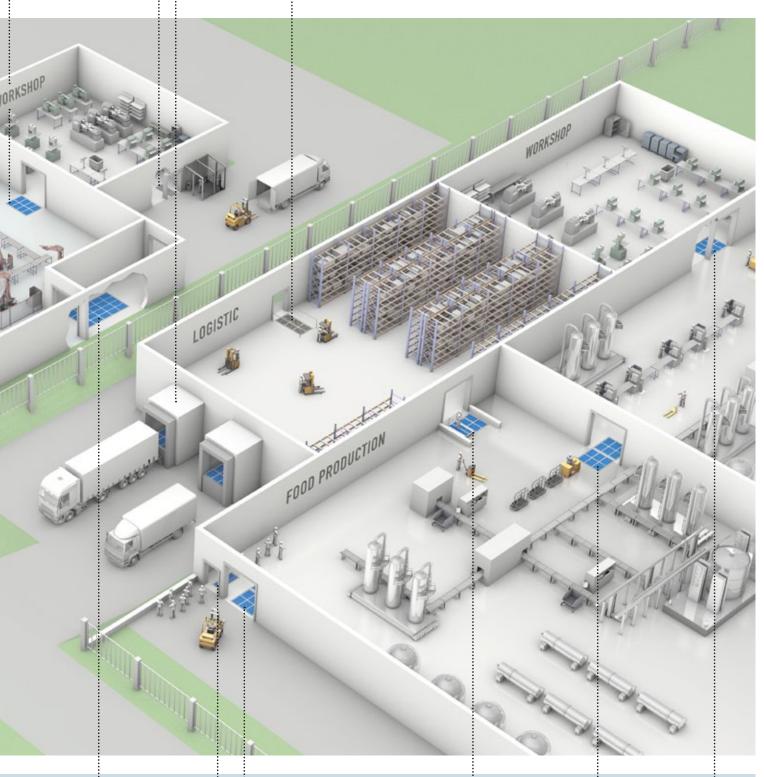


Thanks to the installation of ProfilGate®, you will extend the lifetime of your epoxy coating or industrial resin flooring as the surface gets less scratched. Dirt on tires, wheels and casters acts otherwise like sandpaper. Overall you will notice far less damages throughout facilities that use ProfilGate®.



Door to break room ProfilGate® b55 go Integrated into loading bays ProfilGate® st55 Staff entrance ProfilGate® b55 go

## **Clean factory**



Integrated into the air lock in front to the inner door

0

ProfilGate® b65 smooth:

Disinfection behind the door to the break

ProfilGate® i45 aqua

Wet cleaning / disinfection ProfilGate®

i45 aqua

Disinfection of rollers next to the sole washer

ProfilGate® i45 aqua

Wet cleaning/ Disinfection when with thoroughfare to the production shop

ProfilGate® i45 aqua



Entrance to the workshop

ProfilGate® b55 smooth:

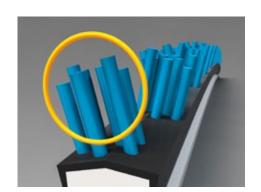
## The Difference is in the Details

#### The patented brush strips are the core of the innovative ProfilGate® system.

Due to ongoing improvements and further development, the sophisticated brushes guarantee highly efficient cleaning of driving and walking zones.

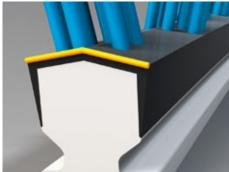
A large combination of detailed engineered functionalities assures optimum efficient cleaning results, smooth operation and longevity. The sustainable design requires no electricity.





#### **Bristles**

The specially designed and patented angled position of the nylon bristles enables a maximum cleaning effect of wheels and even shoes. It allows for an active, mechanical cleaning by friction as soon as weight acts. The uneven bristle tips get deeply into the various profiles going over the system.



#### **Roof shape**

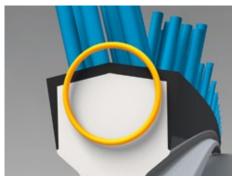
The slightly angled upper surface of the brush body ensures that dirt particles and fluids end up directly in the tray floor. The narrow brush body allows for dirt particles of up to 8 mm size to easily pass and be collected in the tray below.



#### **Profile shape**

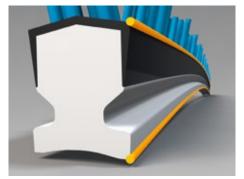
The brush body's tapered design facilitates larger debris to easily pass and fall into the stainless steel tray below. The combination of the pre-stressed strips and the patented brush array automatically leads to an active cleaning while driving or walking.







The brush body is co-extruded from hard and soft PVC. A special mix creates constant tension of the strips and makes it suitable for high fluctuating temperatures as for example required in food environments. The covering of the top surface with soft PVC reduces the noise level to a minimum during use.



#### **Brush strip**

The pre-stressed tension of the brush strips allows up to 15 mm downwards movement. When used with tires or shoes, the bristles get down and automatically create vibrations that transport the brushed-off dirt down into the stainless steel collection trays. In addition, the retraction protects the bristles from excessive wear as the majority of weight rests on the grate.







ProfilGate® **b65 smooth** ProfilGate® **b55** smooth

### For highest loads in continuous operation.

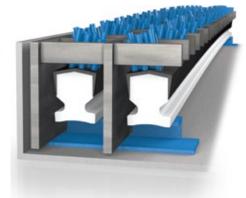
#### The ProfilGate® series b stands for galvanized heavy-duty grates.

Their big dirt collection trays and the 8,5 mm gaps between the grates and brush strips make these models the first choice for outdoor entrance areas.

They ensure reliable cleaning of tires and wheels under harshest conditions.



- NEW: Plain and smooth grate surface
- For wide tires, rollers and wheels
- Designed for high axle loads
- → 20 mm dirt-collecting container
- For > 100 passages per day



ProfilGate® **b55** smooth

- NEW: Plain and smooth grate surface
- > For wide tires, rollers and wheels
- Designed for high axle loads
- → 10 mm dirt-collecting container
- ▶ For > 100 passages per day

- Outdoor entrance zones
- Big industrial trucks
- Trucks



Material supply from outside



Fork-lift truck from outside





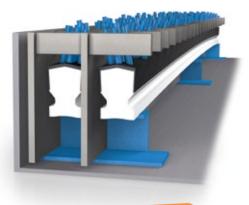
ProfilGate® st55 ProfilGate® st65

### Specialist for small and hard casters.

#### The ProfilGate® st-series is especially designed for the cleaning of small and narrow casters.

The narrow comb structure of these models is highly suitable for smaller casters and wheels of lift trucks, tugger trains, forklifts, handcarts as well as AGVs.

The 5 mm gap between grates and brush strips ensures removing fine contamination from wheels especially inside facilities, i.e. between logistic and sensitive production areas or in loading docks.



ProfilGate® st65



- First choice for small rollers and wheels
- Plain and smooth grate surface
- ▶ 20 mm dirt-collecting container
- For > 200 passages per day



- Designed for small rollers and wheels
- Plain and smooth grate surface
- ▶ 10 mm dirt-collecting container
- → For > 200 passages per day

- Entrance zones in clean areas
- Integrated into loading docks
- Built in service lifts
- ▸ In front of workshops



Integrated into the loadhouse









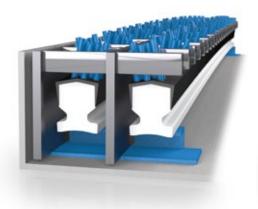
ProfilGate® **i55** ProfilGate® i45

### Resistant through stainless steel.

#### The ProfilGate® i-series stands for inox as it is made of stainless steel.

The i-models are ideally suited for food, pharmaceutical and chemical industries, where dealing with moist and wet environments and aggressive cleaning agents is necessary.

The ultra-smooth surface of the grates ensures a quiet operation of hard casters and wheels of handcarts and trolleys.



#### ProfilGate® i55

- For wide tires, rollers and wheels
- Designed for high loads
- Plain and smooth grate surface
- ▶ 10 mm dirt-collecting container
- → For > 100 passages per day



#### ProfilGate® i45

- > For wide tires, rollers and wheels
- Designed for high loads
- Plain and smooth grate surface
- ▶ For > 20 passages per day

- Entrance areas
- Pharmaceutical industry
- Chemical industry
- Food areas



Entrance areas to deep-freeze stores



Material locks



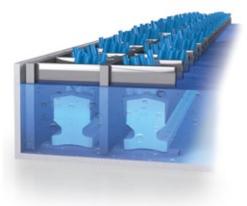


## Effective wet cleaning and optional disinfection.

ProfilGate® i45 aqua

The ProfilGate® i aqua-series allows for wet cleaning and disinfection of wheels and can be used either in a dry or wet way, filled with a disinfection liquid.

A standpipe valve controls the filling level of the stainless steel trays. The capillary effect transports the liquid from the bristles further to the casters, wheels or shoe soles.



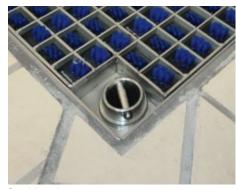
#### ProfilGate® i45 aqua

- For wide tires, rollers, wheels and soles
- Designed for high loads
- Plain and smooth grate surface
- Active cleaning and disinfection by additives

- Thoroughfares
- Locks
- ▶ Food areas



Outdoor entrance zones in hygiene areas



Standpipe valve







#### ProfilGate® k55

## Light and food safe suitable for any roll width.

The ProfilGate® k-series stands for low weight and food safe cleaning. The grates are made of ultra-light and anti-bacterial synthetic material.

The absolute smooth surface provides a very low-vibration driveover, and the low-weight structure allows for easy lifting.

The very small comb grates are perfect for small rollers, caster and wheels, but can as well handle larger tires. The material is FDA approved for contact in food facilities.



- For narrow casters and wheels
- Plain and smooth grate surface
- → 10 mm dirt-collecting container
- → For > 200 passages per day



- Narrow rollers
- Entrance areas in clean zones
- In front of laboratories
- In front of workshops
- Hospitals



Trolleys with small rollers



Easy removal of grates due to light weight





ProfilGate® **b55** go ProfilGate® b45 go

#### The ProfilGate® go-series was especially designed for heavy employee foot traffic.

The extra long bristles of the brushes allow for a deep and thorough cleaning of shoe soles.

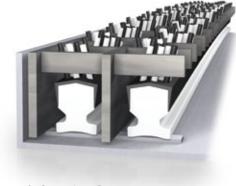
It is useful to add railings so that the employees are forced to pass the ProfilGate® go system.

## Ultimate shoe cleanliness for employee entrances.





- For highly frequented entrance zones
- Optimised for profiled soles
- · Above-ground installation with ramps possible



#### ProfilGate® **b45** go

- For low-frequented entrance zones
- Optimised for profiled soles
- Above-ground installation with ramps possible

- Factory entrances
- Dirt-sensitive production areas
- Staff locks
- Exit locks
- In front of ESD-control stations



Cleaning of soles and rollers in front of the EDS-area



Above-ground version with ramps

# Low Maintenance & easy to clean!

The ProfilGate® system is almost maintenance free. Once installed, it works 24/7 for you. There is no electricity needed. It is recommended to clean and empty the trays in regular intervals of several weeks.

After about 500.000 drive-overs or 6-8 years, a simple and easy brush replacement will restore full cleaning capacity.

Additionally we guarantee durability of brushes of minimum 100.000 passages even if the same lane is used all the time. Changing and rotating the segments in combination with regular cleaning will extend the lifetime.



#### **Easily removable grates**

The ProfilGate® Lifter ensures lifting of the grates in an ergonomic and timesaving way by only one person. This reduces not only personnel cost, but also the anyway low maintenance cost.



#### Fast cleaning

The dirt and debris that is collected under the grates can easily be vacuumed and emptied. Some customers monitor amount and content to prove to their management how efficient ProfilGate® works.





# Certified and approved Efficiency.

## The cleaning effectiveness of ProfilGate® is scientifically proven by the Fraunhofer IPA Institute.

Even though our customers confirm the excellent cleaning results of the ProfilGate® system regularly, we wanted to attest these observations by an objective and scientific analysis.

In order to do this, we cooperated with the **Fraunhofer IPA Institute** and created an adequate test setup. During the tests, shoe-soles, as well as smaller wheels and larger tires have been cleaned, by just regularly passing the ProfilGate® system. The attached dirt particles have been captured before and after passing the field. Thereafter the probes were analyzed by quantity and also quality, using an electron microscope scanner (Model PSEMeXplorer, by RJL).

Please find detailed information about the excellent results on the next page.



Test preparation with Fraunhofer IPA



Contact sample before and after the cleaning field  $% \left( 1\right) =\left( 1\right) \left( 1\right) \left($ 



#### **Food safety**

Our high-quality ProfilGate® bristles are in compliance with the FDA, which regulates the contact of plastic materials with food.







#### **Anti-slip property**

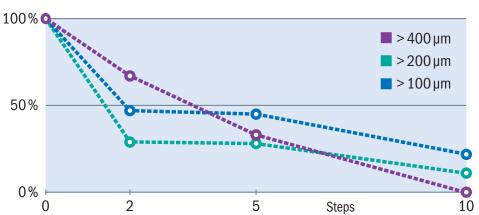
Several friction evaluation methods proved that our ProfilGate® models show low slipping risk and can therefore be evaluated as anti-slip and as floor pavements suitable for operational usage.



REM-EDX-analysis by the PSEMeXplorer



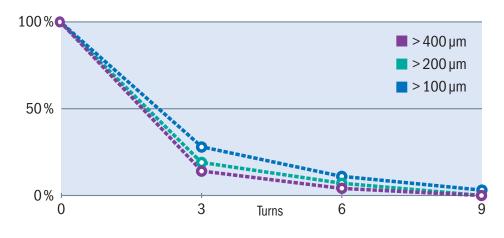




## Fraunhofer IPA test results for shoe-soles

Only a few steps on the ProfilGate system are enough to brush off more than 60% of the adhering dirt.

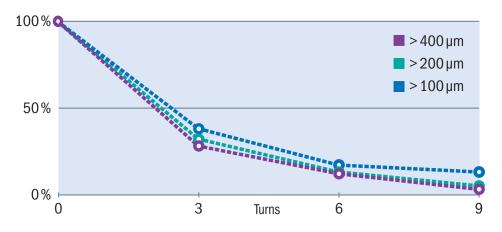




## Fraunhofer IPA test results for smaller wheels

Just after 3 rotations on the field, the brushes have taken off up to  $80\,\%$  of the adhering dirt from the wheels.





## Fraunhofer IPA test results for tires

For a sound cleaning of forklift-tires we recommend at least 3 rotations.



	b65 smooth	st65	b55 smooth	b55 go
<b>Model Line</b>				
Tray height (mm)	6	5		
Additional dirt container (mm)	+20	+20	+10	+10
Optimum for	0	0	0	<b>=</b>
Maximum admissible vehicle weight (t)	40	40	30	30
Recommended maximum number of passages < 100 per day			•	•
< 100 per day	•	•		
Anti-slip (class)	R12	R12	R12	R12
Suitable for hard rollers		•		
Appropriate roller width (mm)	≥31	≥24	≥31	≥31
Suitable for above-floor applications (ramps)	•	•	•	•
Grate Stainless steell V2A (1.4301)				
Steel (S 235 JR)	•	•	•	•
Synthetic material (PA 66 GF35)				
Tray Stainless steel 1.4301	•	•	•	•
Brush strips per grate	10	14	10	10
Grates per segment	2	2	2	2
Modular unit (number of segments W x L) Tray size (W x L in mm) Number of grates x weight	1 x 1 718 x 980 2 x 30 kg 1.5 x 1 1072 x 980 3 x 30 kg	1 x 1 718 x 980 2 x 33 kg 1.5 x 1 1072 x 980 3 x 33 kg	1 x 1 718 x 980 2 x 26 kg 1.5 x 1 1072 x 980 3 x 26 kg	1 x 1 718 x 980 2 x 26 kg 1.5 x 1 1072 x 980 3 x 26 kg

b65

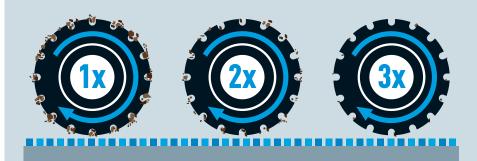
b55

st55	i55	k55	i45	i45 aqua	b45 go
55				45	
+10	+10	+10	-	-	-
0	0	<b>© =</b>	0	0	
30	20	2.5	10	10	20
•	•	•	•	•	•
R12	R11	R11	R11	R11	R12
•		•			
≥24	≥31	≥20	≥31	≥31	≥31
•	•	•	•		•
	•		•	•	
•		•			•
•	•	•	•	•	•
14	10	14	10	10	10
2	2	4	2	2	2
1 x 1 718 x 980 2 x 28kg 1.5 x 1 1072 x 980 3 x 28kg	1 x 1 718 x 980 2 x 26 kg 1.5 x 1 1072 x 980 3 x 26 kg	1 x 1 732 x 1424 4 x 14 kg 1.5 x 1 1092 x 1424 6 x 14 kg	1 x 1 702 x 976 2 x 21kg	1.5 x 2 1047 x 1940 6 x 21 kg 2 x 2 1392 x 1940 8 x 21 kg 3 x 2 2084 x 1940 12 x 21 kg	1 x 1 702 x 976 2 x 22 kg

## **Most common Applications**

The ProfilGate® system can be easily customized to fit almost any in-plant application as well as material handling device. From big lift truck tires to small casters - there is a solution for any wheel.

From the automotive to food industry and from the chemical to pharmaceutical industry - the ProfilGate® system offers the perfect solution with flexibility and a wide model range.



#### How to determine the optimum and best length for your installation

Extensive tests from independent institutions have shown that the most effective length for a ProfilGate® installation requires 3 full tire rotations. For an additional thorough cleaning effect, the length can be extended to reach 4 or 5 rotations (for more details see page 23).



#### Intensive cleaning of long tugger trains' casters and wheels

#### ProfilGate® b65 smooth

For very high traffic requirements and indoor cleanliness a long cleaning solution is used.

- Very intensive cleaning
- In-ground installation that is passable with up to 6 km/h
- Broad cleaning solution for any size of vehicle



b65	k i	b65 b65		b65	
<b>h.</b>	<b>h.</b>	<b>h.</b>	<b>b.</b>		
L 1	b65			L i I	
<b>#.</b>	<b>b</b>	<b>h.</b>	<b>b.</b>	<b>.</b>	
L 1	   b65  ±.	k i	k i	L I	
<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	
	b65		b65	b65	
b65	b65		b65		
b65	b65	b65	b65	b65	
b65	b65	b65		b65	
	b65				



#### Above-ground with ramps

#### **ProfilGate® b55 smooth with ramps**

A temporary or permanent above-ground solution is often preferred when it is not possible to install the units into the ground or if you require a flexible solution that can be moved to different areas.

Flat ramps allow for driving over the cleaning solution with almost any vehicle.

- Low installation cost
- Usable in rental properties
- ▶ Flexible use



#### Stainless steel for wet environments

#### **ProfilGate® i55**

The stainless steel system is resistant to solvents and aggressive cleaning agents and therefore often applied in the food, chemical and pharmaceutical industry. Since the majority of material handling devices use smaller casters in these industries, an installation of only 2 to 3 segments length is already very efficient.

 Grates made of stainless steel are highly resistant to solvents



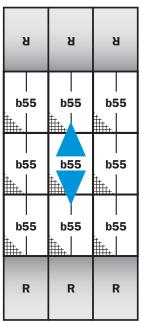
#### Above-ground sole cleaning area with ramps for pedestrians

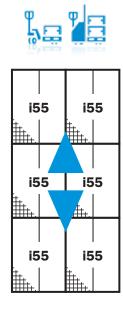
#### ProfilGate® b55 go

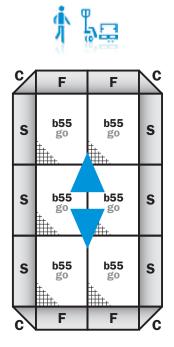
If you need a durable cleaning solution for your employee entrances, but it is not possible to install it into the ground, the ProfilGate® go-series with above-ground ramps is the perfect solution. The system can be easily installed and also handle high loads from pallet jacks.

- Low installation cost
- Usable in rental properties









# Special Solutions

In addition to the typical and common installations of ProfilGate®, there is a large number of special and custom solutions available.

We are known for serving global industry with custom solutions for their special needs since 1905. From loading docks to freight elevators and staircases to freezer solutions – contact the ProfilGate® team for your individual facility needs.





## In combination with a sole cleaning machine

ProfilGate® i45 agua

A ProfilGate® installation for the material handling devices in combination with sole cleaning equipment represents a practical and logical solution.

This way you can simultaneously disinfect your employee's shoes and the carts' wheels while moving into high risk areas.



## Between workshops and hygienic areas

**ProfilGate® st55** 

Workshops and maintenance areas are often located next to production areas to have short distances. This makes it difficult to protect hygienic areas from critical dirt such as metal shavings originated in the engineering workshop.

ProfilGate® is a perfect separation for all your entrances and ensures a thorough elimination of foreign objects.



## Pallet transfer stations as cleaning locks

**ProfilGate® i55** 

The ProfilGate® system is often used to separate zones. In pallet transfer stations material handling devices from outside use the same traffic lane as those from inside. This can lead to cross-contamination.

ProfilGate® can serve as cleaning lock and therefore not only prevent dirt transfer, but also clean the pallets' footprints.



## Integrated in loading docks/ramps

#### **ProfilGate® st55**

No matter how clean your facility is – delivery trucks providing your warehouse and production site are always a critical factor of dirt transfer.

As your transport vehicles bring plenty of material into your building every day 24/7, our loading dock solution is an essential requirement for any warehouse, distribution center or incoming area.



## Automated Guided Vehicles (AGVs)

#### ProfilGate® st55/st65

The ProfilGate® system is well suited to clean the casters and wheels of almost any AGV. AGVs mostly travel along the same route and therefore wear down the coated floors.

By cleaning the wheels regularly, you will notice less wear and tear on the floors. Their lifetime is extended. In addition, you prevent dirt distribution from one area to another.



## Cleaning in front of the lift

#### ProfilGate® st55/st65

In those cases, where the material is conveyed to clean manufacturing areas by service lifts, ProfilGate® fields are recommended to be installed in front of the lift doors.

In this way, a lock-like function is established, which provides thorough cleaning of the tires/rollers/wheels before entering the lift.



## Cleaning lock in the lift

#### **ProfilGate® st55**

A ProfilGate® field directly built-in the lift cab is the perfect solution for bi-directional roller cleaning.

The rollers of route tugger trains or automatically guided vehicles (AGV) are cleaned from sticking dirt both when driving-in from the logistics into the vehicle lift and returning from the production area.

### **Accessories**

For the optimum operation of **ProfilGate® there are useful** accessories available.

Additional accessories you will find on our website:

www.profilgate.com



#### **ProfilGate® Lifter**

The new ProfilGate® Lifter helps you to take out the grates in a very easy and back-friendly way, by only one person. It saves labor cost by minimizing the low maintenance work, even further.



#### Long lifting hooks

Two lifting hooks ease taking out the grates when the capturing trays need to be emptied.



#### **ProfilGate® DryZone**

The unique ProfilGate® DryZone absorbs fluids as water, emulsions, oils and more, providing reliable drying performance on the running surfaces of tires, rollers and wheels. The ProfilGate® DryZone can be combined with all other models and can retrofit all existing ProfilGate® installations.



#### **Maintenance board**

Even though the ProfilGate® system is basically maintenance free, even the best system needs to be emptied/ cleaned from time to time. To assure that this is done regularly and in order to have a reliable documentation, we provide our customers with the ProfilGate® maintenance board.

### Further products of HEUTE



Since more than 60 years, the shoe shine machines from HEUTE are in use worldwide.

#### **Shoe Shine Machines**













#### **Sole cleaning in industrial environments**











Since several decades the company HEUTE offers a huge variaty of customized cleaning solutions for industrial purposes.







