

moveero

evolving every day

Revolutionising the way
you think about wheels



Available in the UK from BWT
www.bwt.uk.com

BWT
BROCKS WHEEL & TYRE

Industry leading manufacturer of Off Highway Wheels

Weight saving, increased efficiency, durability, higher payload or machine uptime – whatever your primary need, we have wheel solutions that are right for you.

moveero offers a full-service support across the globe, from design, and validation to manufacture, through to comprehensive in-house and in-field testing.

Previously known as GKN Wheels, our long-standing heritage, industry leading expertise and commitment to delivering safe and efficient solutions to customers worldwide, drives our ambition to remain the supplier of choice for off-highway wheels.

Customers first

Our experienced engineers work closely with OEM's and operators to understand the challenges they face, enabling us to develop solutions to meet load and torque requirements.

Our proven and tested wheel range spans single and multi-piece wheels, capable of reliably operating in the harshest of environments and development to meet the demands of higher payloads, productivity and increased efficiencies, for the global agricultural, construction, material handling, forestry, mining industries.



We continually seek to expand our engineering knowledge and expertise. Our broad product portfolio of wheels has been developed to meet the industry's demand for increased productivity, higher payloads, increased speeds, and tyre efficiency – as well as driver safety, comfort, machine uptime and low maintenance being priorities.

With manufacturing facilities located in the USA, UK and Denmark and Research, Development & Test Centers located in the USA and Italy, moveero have a global presence, with a local service team to work with customers directly.

Design, Development and Testing



Working closely with Original Equipment Manufacturer and tyre partners, our R&D teams are developing products that enhance performance and provide solutions.

moveero has two purpose-built Design, Development and Test Centres, one in Europe and one in North America. This is where we validate and rigorously test new designs and product improvements.

We have total engineering capability to offer research, design, simulation and validation, and continual investment in both laboratory and field-testing equipment to enable us to stay at the forefront of off-highway wheel development. At moveero, we have some of the most advanced purpose-built, electronically controlled systems in the industry and use leading design methodologies including computer simulations and Finite Element Analysis, all of which is backed by extensive testing, both inhouse and in the field.

Understanding your requirements

Before any product design is undertaken, we commission a thorough and comprehensive study of both customer, machine requirements, challenges and desired outcomes. Advanced analytical models are created to enable us to develop high quality solutions in the virtual world, before committing to the manufacture of any parts. Finite Element Analysis (FEA), fatigue analysis and section tests are supported by a comprehensive materials database and used to develop durable and reliable products that meet the efficiency requirements of our customers.

Design & development is frequently undertaken in close liaison with leading tyre partners to ensure product capability and compliance with relevant regulatory standards (TRA, ETRTO & JATMA).

Wheel testing

Working with customers, we undertake tests in a real-world environment, using our sophisticated test equipment at one of our research & development centres. We can test both wheels and hubs, to simulate virtually all potential operating conditions, providing accurate performance data, which is not only invaluable to customers, but also provide data to our manufacturing plants for future improvements and investment plans.

Our research & development centres are located in Brescia, Italy and Illinois, USA.

Both centres offer:

- FEA modelling & simulations.
- Life expectancy/fatigue analysis.
- Disc and rim fatigue testing.
- Field testing & data acquisition.
- Experienced engineering team to support you through every stage of the design and test process.

Sustainability and the environment

As product designs evolve, our engineers are always looking to offer solutions that perform better than their predecessor: more lightweight, more efficient & durable or made with less material, consuming less energy or generating less waste. Our approach to design & manufacture ensures that we, and our customers limit the impact we have on the environment and our local communities.

New technology, providing solutions

At moveero we are always looking for opportunities to think differently, and bring new solutions to off-highway machinery. Our patented designs and solutions add value and bring benefits to Original Equipment Manufacturer, machine contractor and end user and are fully backed by our service offering.

Solutions for agriculture & forestry

- Profi-Fit – for easier tyre fitting.
- Profi-Grip – eliminates tyre to rim slippage.
- Profi-Max – a 20% increase in agricultural loads capacity.
- Profi-Flex and Profi-Flex^{HS} – adjustable wheels for optimised yield and comfort at higher speeds.
- Profi-Tuff – maximise traction, minimising tyre slippage and providing optimum strength.
- Profi-Hub – light weight, with improved performance and easier maintenance.

Our broad product portfolio of wheels has been developed to meet the industry's demand for productivity, higher payloads and efficiency – together with driver safety, comfort, machine uptime and low maintenance being a priority.



Delivering the best solutions today; developing innovative technologies for tomorrow. The industry leading Profi-Fit (TW) rim design

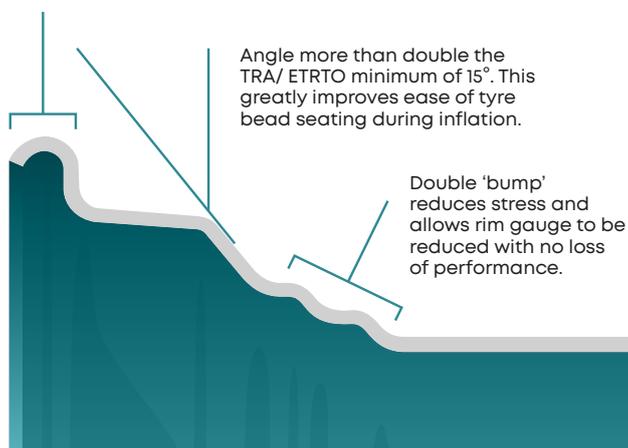
Our core values underpin every aspect of our business

- Delivering engineering solutions to add value and innovation at every opportunity.
- Delivering flexibility and managing complexity with a global footprint.
- Conducting business with integrity.

With a global footprint and a local presence, we are committed to meeting our customer's evolving needs. By continuing to invest in our global operations, we are able to work with and deliver the very best technological solutions, for the worlds essential industries.

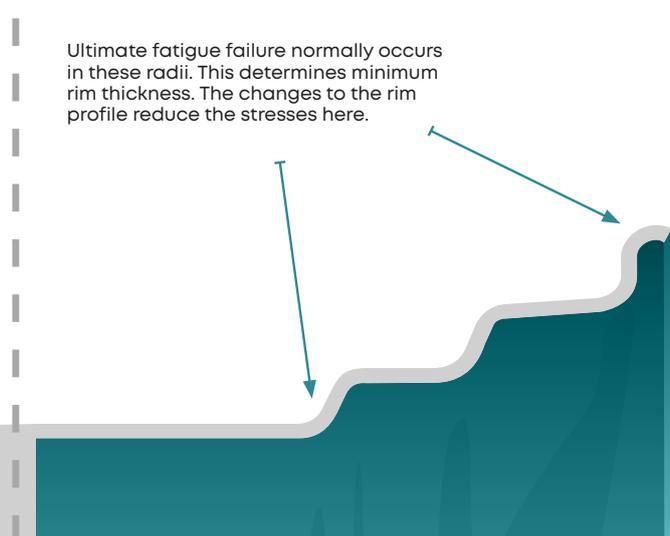
Profi-Fit (TW) rim profile – 4.7mm thick

Rolled over flange improves rim strength and initial fitting of tyre. Improves performance with low pressure tyres.



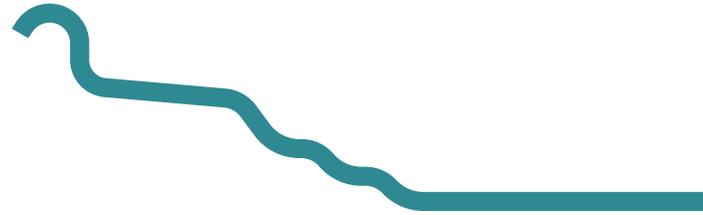
Standard DW – 5.2mm thick

Ultimate fatigue failure normally occurs in these radii. This determines minimum rim thickness. The changes to the rim profile reduce the stresses here.



Profi-Fit

moveero



Easier tyre fitting

- The perfect solution for low-pressure agricultural tyre applications.
- Weight optimisation and durability minimises the risk of soil compaction.
- Improved rim strength ensures easy tyre fitting.
- Designed to control runout.



Designed by our in-house engineers, the Profi-Fit wheel combines durability with reduced weight and easier tyre fitting, bringing benefits to both original equipment manufacturers and in-field end users.

Our patented Profi-Fit wheel is the perfect solution for low-pressure agricultural tyre applications, combining durability with reduced weight and easier tyre fitting. Used extensively to minimise the risk of soil compaction, low-pressure tyres typically have stiffer walls, making them more difficult to fit.

However, Profi-Fit was specifically designed to address this problem, with its rolled-over flange improving rim strength and minimising the risk of tyre damage during installation.

The unique angled section, more than double the ETRTO minimum of 15 degrees, greatly improves the ease of tyre bead seating during inflation and allows tyres to be fitted to pressures below 2 bar.

The wheel incorporates a unique 'double bump' radius design at a critical point where traditional rims are susceptible to ultimate fatigue failure reducing stress, whilst maintaining strength and performance. The lower wheel weight in turn, reduces vehicle group pressure and contributes to savings in fuel consumption and carbon emissions.

First introduced to the market in 2009, the triple well Profi-Fit Wheel

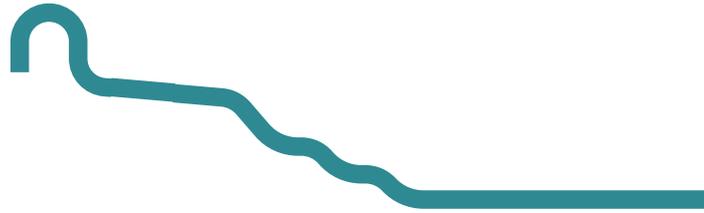
- Eliminates problems with mounting of stiff tyres for high loading capacity.
- Allows for faster tyre mounting.
- Designed for use with low pressure during tyre inflation which increases safety.
- Reduced weight.
- Rollover flange improves strength and minimises tyre damage during fitting.

Typical applications for a Profi-Fit rim include combines, self-propelled forage harvesters and tractors.



Profi-Grip

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Eliminating tyre slippage

- Innovative design solution.
- Eliminates the risk of tyre slippage.
- Easier fitting of high load capacity tyres.
- Enhanced durability.
- Strong flange design minimises rim shrinkage and protects the tyre when used at low pressure.
- Improved contact pressure between the tyre and rim.



Tyre slippage has become increasingly problematic over recent years. The combination of larger tractors, increased horsepower, larger implement machinery, low inflation pressure with Central Tyre Inflation systems (CTIS), and heavy loads is causing tyre slippage.

Tyre manufacturers are developing tyres to run at a low inflation pressure to maximise the 'footprint' and the transfer of power from the tractor to the soil.

moveero's Profi-Grip rim feature a unique profile, developed to eliminate tyre-to-rim slippage. Featuring a strong flange which both minimises rim shrinkage, and serves to protect the tyre when used at low pressure, the Profi-Grip wheel also incorporates our patented Profi-Fit TW design, which allows high-load capacity tyres, with very stiff side walls, to be mounted easily and with no risk of tyre damage.

Designed to ETRTO standards and launched to meet the growing demand from ever-larger and more-powerful tractors, the Profi-Grip wheel has been developed to deliver significantly improved contact pressure between the tyre and rim – which not only eliminates slippage but also makes the fitting of high-load capacity tyres faster and safer, it also provides enhanced durability.

Profi-Grip delivers benefits in wet conditions during the winter, but equally has proved its value during the dry conditions of the summer months experienced in some regions – where the issues of traction and tyre slippage are equally problematic.

- Profi-Grip utilises the patented Profi-Fit (TW) rim design which allows for faster tyre mounting
- Ideal for IF and VF low pressure tyres.
- Improved flange design improves rim stiffness and enhances durability.



Profi-Flex

moveero



Track adjustment to optimise yield and comfort at high speeds

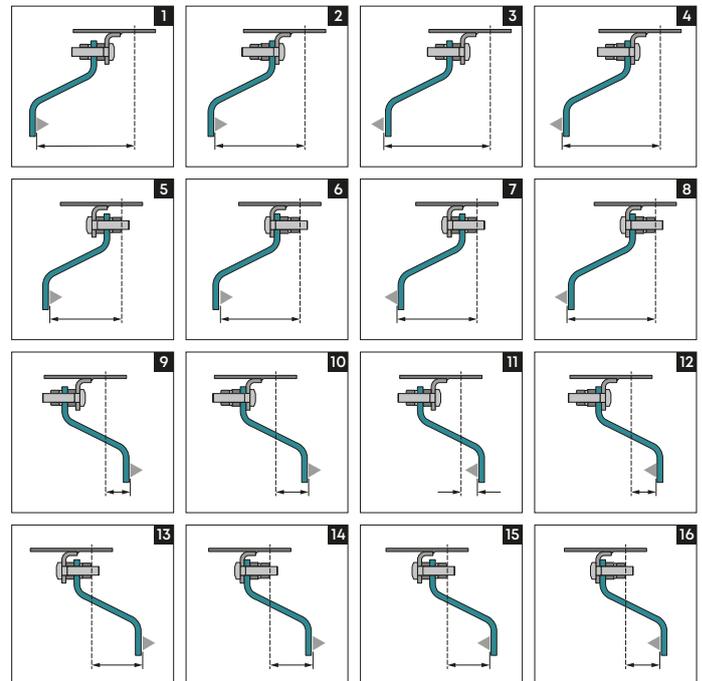
- Continuously welded flange ring joins the bolted centre disc to the wheel rim.
- Increased bolt stretch.
- 16 offset positions, 15mm between each.
- Can operate at speeds of up to 50km/h and available with moveero's patented TW Profi-Fit rim profile.
- Standard wheel designs allows up to as much as 260hp.
- Rack position moves to optimise the greatest yield on crops.
- High performance life and low fatigue due to structurally efficient joint structure.



The Profi-Flex wheel is moveero's manually adjustable variable track wheel and a well-proven industry standard. The Profi-Flex wheel features 16 different track positions, more than others in the market, with 15mm between, resulting in accurate and precise positioning when planting varying crops or moving on-road, from field to field.

The variable width also lends itself to situations where more steering ability or traction may be required.

The component tolerances have been developed to allow all adjustable track wheels to be suitable for operations at speeds of up to 50km/h.

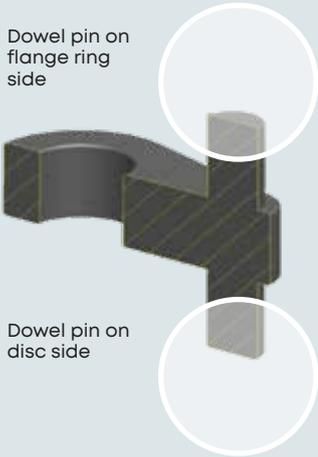


Profi-Flex^{HS}

moveero



Dowel pin on flange ring side



Dowel pin on disc side



- Designed to address the issues of run-out that can occur on manually adjustable track wheels.
- The unique solution uses a single alignment pin which ensures that the disc has to be re-fitted in the correct position when the track spacing has been changed.
- The spacer with dowel pins is an integral part of the wheel and cannot be lost due to vibrations or left behind during the disc position change operation.
- Suitable for speeds up to 60km/h and 500hp.



An evolution of the tried and tested Profi-Flex wheel is the patented – high speed version – Profi-Flex^{HS}. A key trend within the agricultural industry in recent years has been the move towards bigger farms, meaning tractors spend more time on the road with a need to travel faster. The increasing speeds means that the issue of run-out or ‘wheel

wobble’, becomes ever more important. The faster the tractor’s speed, the more pronounced the issue becomes.

moveero provides a solution to address the issue of run-out that can occur on manually adjustable track – Profi-Flex – wheels when used on these high speed applications. Profi-Flex^{HS} wheel addresses this problem.

The standard for tractors that are approved for speeds of 50km/h and above requires high spot marking of the wheel and low spot marking of the tyres, to ensure the tyre is

positioned accurately, thereby minimising run-out and so optimising ride comfort and performance. However to suit different operational requirements, manually-adjustable wheels enable the disc to be moved to change the track settings, and in these circumstances it is vital that when it is refitted, the disc isn’t rotated and the alignment isn’t altered, as this could have a significant impact on run-out.

The solution – incorporates integrated centring pins in the spacers, guaranteeing that the disc and rim are correctly re-aligned when wheel track settings are being changed. This unique solution uses a single alignment pin which ensures that the disc has to be re-fitted in the correct position when the track spacing has been changed and the correct tolerances are maintained.

The Profi-Flex^{HS} solution is simple and straightforward, ensuring that the manual adjustment of a tractor’s track settings can be completed efficiently and accurately, every time.

The result = ride quality, comfort-levels and tractor performance are maintained at the highest levels.



Unique selling proposition segment and brand matrix



Easier and faster tyre mounting



Reduction of tyre slippage



Soil protection



Light weight design rim and/or disc

Agriculture

Tractors >250hp	Profi-Fit	Profi-Grip	-	-
Standard tractors <250hp	Profi-Fit	-	-	-
Combines	Profi-Fit	Profi-Grip	Profi-Grip	Profi-Fit
Sprayers	Profi-Fit	Profi-Grip	Profi-Grip	Profi-Fit
Implements	Profi-Fit	-	Profi-Line	Profi-Max
Self-propelled forage harvester	Profi-Fit	Profi-Grip	Profi-Fit	Profi-Fit

Forestry

Standard single piece		Profi-Tuff	-	-
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Construction

Single piece light construction (skidsteer loaders, telehandlers, backhoe-loaders, compact wheel loaders)	Infini-Fit	-	-	-
Multi Piece heavy construction (articulated dump-trucks, wheel loaders, motor-graders, road pavers)	-	-	-	-

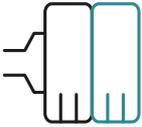
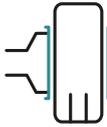
Material Handling

Multi piece container handling and stackers	-	-	-	-
Multi piece mobile cranes	-	-	-	-
Fork lift truck	-	-	-	-

Mining

Underground <=33 inch	-	-	-	-
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 Dual wheel eligibility	 Full service engineering & R&D support	 Higher payload	 Tyre protection (larger flanges)	 Double the lifetime as standard	 Suitable for speed	 Adjustable (track setting)
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Profi-Fit Profi-Grip Profi-Flex Profi-Flex ^{HS}	All product ranges	Profi-Fit Profi-Grip	Profi-Fit Profi-Grip Profi-Flex Profi-Flex ^{HS}	-	Profi-Fit Profi-Grip Profi-Flex ^{HS}	Profi-Flex Profi-Flex ^{HS}
Profi-Fit Profi-Flex Profi-Flex ^{HS}	All product ranges	Profi-Fit	Profi-Fit Profi-Flex Profi-Flex ^{HS}	-	Profi-Fit Profi-Grip Profi-Flex ^{HS}	Profi-Flex Profi-Flex ^{HS}
Profi-Fit	All product ranges	Profi-Fit Profi-Grip	Profi-Fit	-	-	-
-	All product ranges	Profi-Fit Profi-Grip	Profi-Fit	-	Profi-Fit Profi-Grip Profi-Flex ^{HS}	Profi-Flex Profi-Flex ^{HS}
-	All product ranges	Profi-Max	Profi-Fit	-	Profi-Line+	-
-	All product ranges	Profi-Fit Profi-Grip	Profi-Fit	-	Profi-Fit Profi-Grip Profi-Flex ^{HS}	Profi-Flex Profi-Flex ^{HS}
-	All product ranges	Profi-Tuff	-	-	-	-
-	All product ranges	Profi-Fit	-	-	-	-
-	All product ranges	-	-	-	-	-
Standard multi-piece Infini-Forge	All product ranges	Infini-Forge	Standard multi-piece Infini-Forge	Infini-Forge	-	-
-	All product ranges	-	-	-	-	-
-	All product ranges	-	-	-	-	-
-	All product ranges	Infini-Forge	-	Infini-Forge	-	-



Profi-Max

moveero



With the need for tractors and trailers to carry evergreater loads and work for long hours, today's heavy duty trailers require high performance wheels;

Profi-Max provides the ideal solution for challenging applications and the next generation of tyres



Profi-Max, our highest performing flotation wheel ever

With the need for tractors and trailers to carry ever-greater loads and work for long hours, today's heavy-duty trailers require high performance wheels; Profi-Max provides the ideal solution for challenging applications and the next generation of tyres.

Profi-Max wheel is the next generation offering for flotation wheels in the field. Developed and tested to provide higher load capacity, higher operating speeds and longer life, Profi-Max is the next generation offering for flotation wheels in the field and delivers a number of operational and performance advantages:

- New loading capacities.
- Improved manufacturing and welding processes for higher load discs and to ensure the highest quality.
- Provide greater tyre protection and in-field stability.
- Designed and tested to handle heavier loads and higher speeds – now available up to 80 km/h and high spot marked.
- Also available on request for speeds up to 100 km/h.
- Optimized for CT/VF tyres, with a wider bead seat.
- Longer Warranty – Now 5 year.

Highlights

- Higher load capacity + 20% in comparison with the previous.
- Lifetime over five times longer.
- High-strength steel enabled re-design, giving 10% reduction in weight with no loss of performance.
- Designed to offer 40% reduction of stress in key rim areas.
- C5 classification paint system, suitable for aggressive environments, providing salt spray test up to >1400h.
- Wide flange design offers protection for advanced tyre technology.
- Available with valve guards.
- Optional – Connection to Central Tyre Inflation System (CTIS).

Profi-Max meets the very specific requirements of heavy duty, high load-bearing flotation tyres, which may be subject to sustained periods of intensive use, and have been developed to provide increased load capacity, higher operating speeds and longer life.

With a wider bead area and symmetrical rim, the Profi-Max from moveero offers an increase in fatigue life and loading capacity to meet the strongest tyres in the market.

Sprayer Wheel

The Sprayer Wheel has been designed to easily withstand the ultimate in high-stress agricultural field applications.



Typical applications

The Sprayer Wheel has been designed for the most demanding of agricultural field applications and is capable of operating with extreme loads and at high operating speeds. It is intended for use on row crop sprayers, which have a high load bearing capacity, allowing farmers to cover a higher acreage without the need to stop and refill.



The rim design builds in additional strength to provide high quality, without adding unnecessary weight, helping to deliver markedly increased fuel efficiency.

Increased payload

Using the patented Profi-Fit TW rim design, the weight of the Sprayer Wheel is reduced by 10% without compromising on strength and durability, thereby making it possible to increase the payload.

Lightweight design

The lower weight design reduces vehicle soil pressure and contributes to savings in fuel consumption and carbon emissions.

Ready for VF-Tyres

Designed to easily withstand the ultimate in high-stress agricultural field applications. Combined with a new generation of VF tyres, provide a +40% increase in load capacity and excellent traction. Designed to reduce slippage and provide optimum grip, the wheels optimise load distribution, minimise soil compaction, and protect crops.

Why is there a need to reduce vehicle and wheel weight?

- High load rating can mean high stress areas around the bolt circle which has led to increased disc thickness for these larger wheel designs.
- The design of modern machinery restricts the ability to further disc shape optimisation.
- A revolutionary new disc design was required, and Profi-Lite answers many of these challenges.
- The weight reduction holes potentially reduce the disc.
- Additionally the TW design rim provides a 15% weight saving over the traditional DW design.

Built to withstand the ultimate in high stress agricultural field applications



Profi-Tuff

moveero



New range maximises traction and minimises tyre slippage

- Rim is more than 16% thicker than any other products, with a 90 degree bent-over flange, offering maximum stiffness and protection.
- Spot welded, which keeps the flange ring in place and minimises potential failure points.
- Bespoke knurling to prevent tyre slippage.
- Flange design protecting tyres during mounting and applying heavy duty reinforcement, for extra demanding operations.

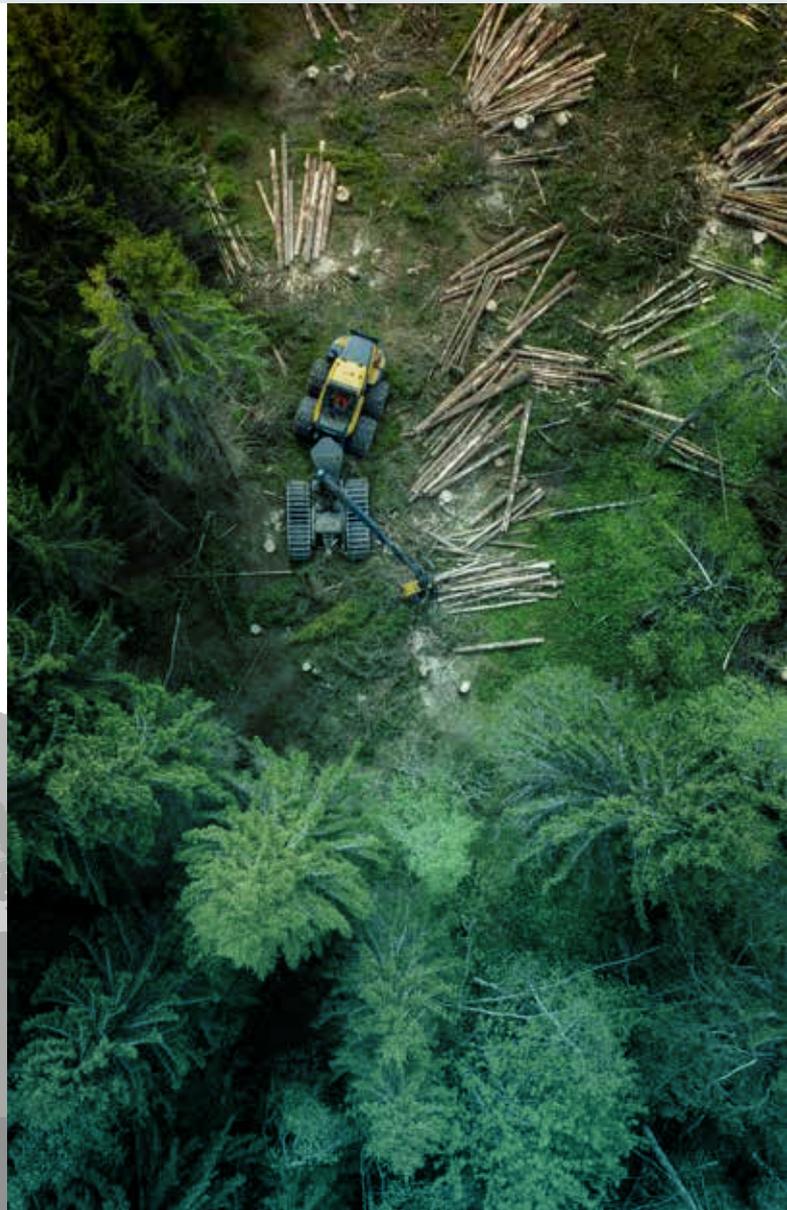


Profi-Tuff's rim profiles have been designed specifically to meet the demanding requirements of the forestry industry providing strength, high stability durability and reliability with the rim being more than 16% thicker than any other products on the market and its signature feature of 90 degree bent-over flange, offering maximum stiffness and protection.

Designed to maximise traction and minimise tyre slippage, providing reliability in terms of high quality, finish, durability, manoeuvrability and stability. All of which help to maximise operator comfort.

Profi-Tuff offers a solution that accommodates the rugged and challenging terrain these machines work in, and the demanding pulling and braking forces that are required.

*Available with paint masking on knurling, for extra high friction.





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