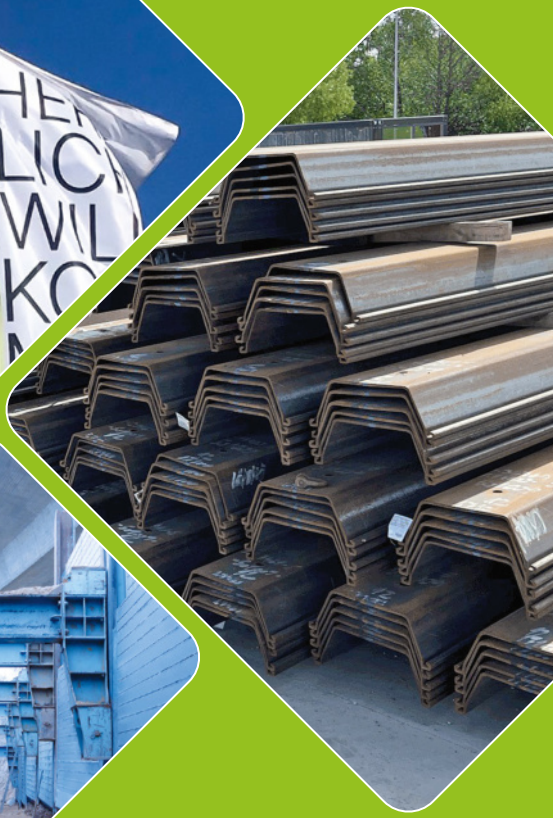
terra
infrastructure



Sustainability @ terra infrastructure

SUSTAINABLE SOLUTIONS FOR YOUR PROJECTS

FOREWORD

Sustainability is not an option – it is our responsibility!

The path to fulfil this responsibility is defined by the Paris Climate Agreement. The next milestone in the EU is set for 2030. By then, a 55% reduction in all climate-damaging greenhouse gas emissions compared to 1990 must be achieved.

Every company faces the challenge of implementation and the concrete question of priorities. The targets explicitly foresee a gradual reduction of CO_2 emissions, among other things. This means that we may not yet know all the solutions today, but we must still face the challenge head-on.

With our solutions at terra infrastructure, we are already largely capable of meeting the 2030 targets of the Paris Climate Agreement – sustainably, safely, and efficiently, as always. Instead of relying on certificate trading, we focus on real reductions in CO_2 emissions.

The answers to how this works in our various sectors and what advantages it brings to you and your company are right in your hands. If you have any further questions, our entire team is happy to assist you at any time. Just get in touch with us.

We would be happy to support you as your partner in sustainability.

Best regards,
#teamterra

CONTENTS

OUR COMPANY

We are your global partner for projects and solutions in the fields of shoring, infrastructure and civil engineering.

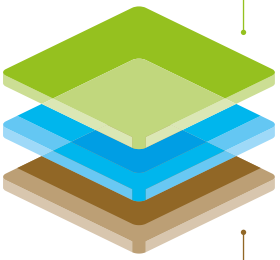
Our solutions always start with a comprehensive analysis of the individual challenges at our customers' respective sites. We therefore always begin by providing comprehensive advice, on which we base our recommendation for a customised solution. Our offer comprises detailed planning and the optimal combination of materials, machinery and installation methods, all tailored to the local conditions.

As an innovative partner, we contribute daily to ensuring that safe, efficient and sustainable construction is not a contradiction. Our solutions ensure safety on sites and create a real competitive advantage through efficiency. Our business is aligned with sustainable action, because through our rental business we have been promoting recycling for decades. In doing so, we utilize the longevity of our products and avoid wasting resources. Our main goals are to actively support the path to CO_2-free steel production and to drive forward the development of emission- and vibration-free machinery.

We are wherever our customers are. Our employees and partners know the regional markets and requirements and can thus optimally meet the specific needs of our clients. Our customers benefit from our knowledge and skills in after-sales services.

We enjoy achieving the goals we set together – while each individual has the possibility to shape the future in their own way, building on our strong and secure foundation.

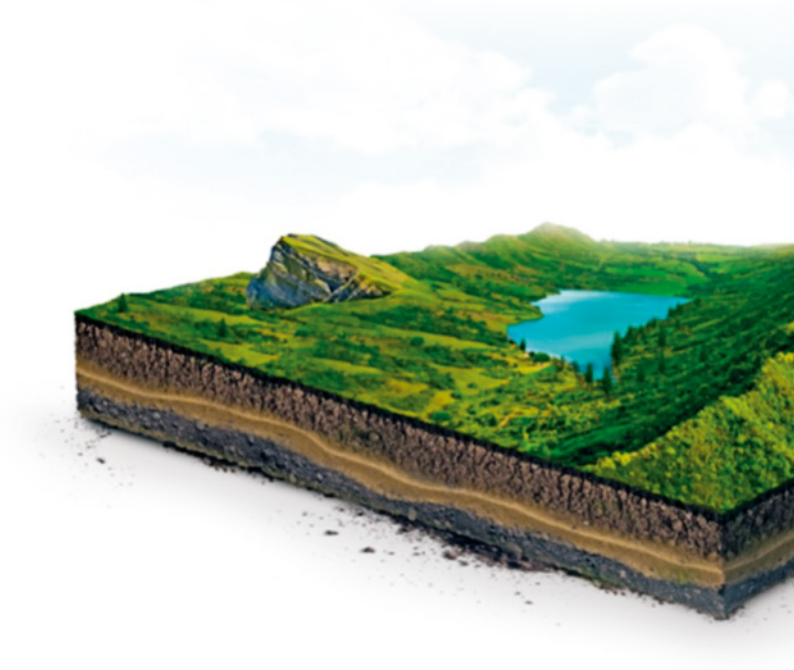
OUR COLORS



GREEN
stands for land, nature and sustainability

BLUE
stands for water and harbor constructions

BROWN
stands for the soil and civil engineering work



Our approach is holistic, solution-orientated and sustainable!

Our solutions consist of sheet piling, machinery and trench shoring. These three areas are interconnected and can be used in a complementary way. This allows us to create comprehensive solutions for construction sites - all from one single source.

Our services enhance our holistic solutions through engineering expertise, prefabrication and after-sales services. We provide recommendations for the best materials, machinery, and installation methods for each project.

Extensive processing options and the maintenance of our products enable a sustainable product lifecycle and resource-efficient infrastructure projects.

PRODUCTS

Steel & Piling products

- Sheet piling
- Steel beams
- Tube & pipes
- Anchors
- Flood protection system

Mach inery

- Excavator-mounted vibratory hammers
- Vibratory hammers
- Power packs
- RTG leader technology
- Drilling technology

Trench Shoring

- Box shoring (aluminium & steel)
- Auxiliary products
- Linear shoring
- Site road systems (plastics, steel)

Consulting

SERVICES

Engineering Services

- Static preliminary study
- Shop drawings (preparation & coating)
- Certifiable structural engineering
- Technical consulting incl. alternative offers
- Cooperation with engineering planning offices
- Partnering
- Execution planning incl. pile driving plans/simulation

Preparation & Service

- On-site service/ induction
- Pitching holes
- Pairing
- Coating
- Corrosion-protection
- Sealant
- Cut to size/ customized
- Fabrication
- Logistics

After-Sales Service

- Troubleshooting & repair
- Support line incl. remote services
- Hire equipment
- Inspection & maintenance
- 24h services for spare parts
- User training
- Monitoring

OFFERINGS

Sale | **Hire** | **Buy back**

OUR MARKETS

- Civil engineering
- Bridge construction
- Tunneling
- Railway construction
- Road construction
- Hydraulic engineering
- Dyke construction
- Harbours
- Canal construction
- Pipeline construction
- Sewage plant construction
- Landscaping
- Demolition
- Various (festivals etc.)

SHEET PILING AND ANCHOR TECHNOLOGY

WE OFFER OUR CUSTOMERS AROUND THE WORLD AN INTEGRATED RANGE OF SYSTEM SOLUTIONS

Central components of our offering are the sale and rental of sheet piling, steel beams, anchor equipment and flood protection. We provide a wide range of products from various manufacturers, and we round off our offer with a comprehensive service package comprising advice, technical support, logistics and leasing.

SUSTAINABLE STEELS

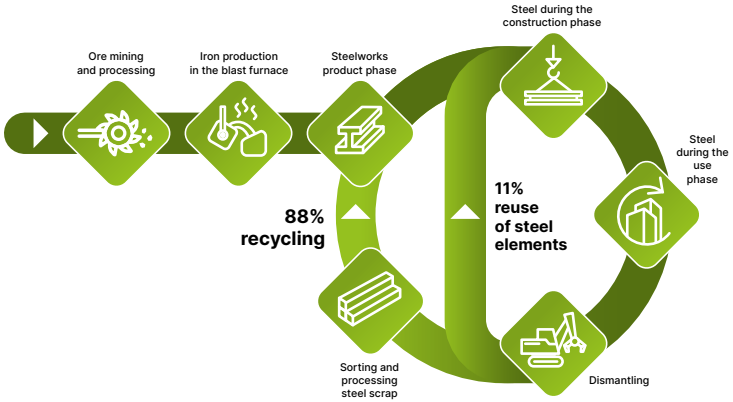
Steel is 100% recyclable without any loss of quality. The steel industry in Germany uses around 20 million tons of steel and iron scrap every year to generate new products which means that a well-functioning steel recycling system is established in Germany. For example, the collection rate for construction steel at the end of a building's lifecycle is approximately 97%. All recollected steel is fully recycled.

The transition to climate neutrality in the steel industry is taking place in stages, depending on the increasing availability of green electricity and climate-neutral hydrogen. A classification system is being developed to reflect this step-by-step transformation process and to specifically incentivize and support the efforts and additional costs associated with each transformation phase. Therefore, produced steel is categorised based on process ambition and emission intensity.

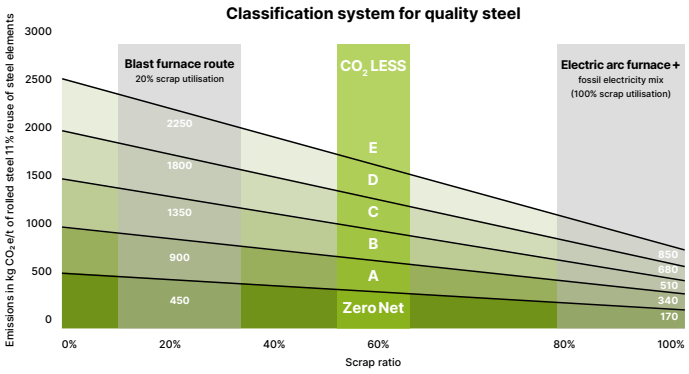
The International Energy Agency (IEA) has proposed a six-tier classification system for this purpose. Building on this, the German Steel Federation (flanked by the Federal Ministry of Economics and Climate Protection) has launched the Low Emission Steel Standard (LESS) initiative. The goal of LESS is to accelerate the development of demand for low-emission steel and to establish initial sales markets. LESS is specifically designed to support the transformation of the steel industry by introducing a labelling system that represents the step-by-step path to climate neutrality and enables the comparison of differently produced steel products.

The LESS system consists of several elements: specifically, a classification scale within the labelling system illustrates whether the steel is categorized as „near-zero" or „low emission (A-D)" steel. The classification thresholds are based on the greenhouse gas intensity per ton of produced hot-rolled steel as well as the stated scrap input. Through a so-called „sliding scale," the system – aligned with the approach of the International Energy Agency – takes into account the globally limited availability of steel scrap. It also ensures that transformative efforts in both, the primary and secondary steel production route, are reflected within a unified scale.

Circular economy with steel



LESS classification system for categorising products depending on their greenhouse gas intensity and scrap quotient



OUR PATH TO GREEN STEEL

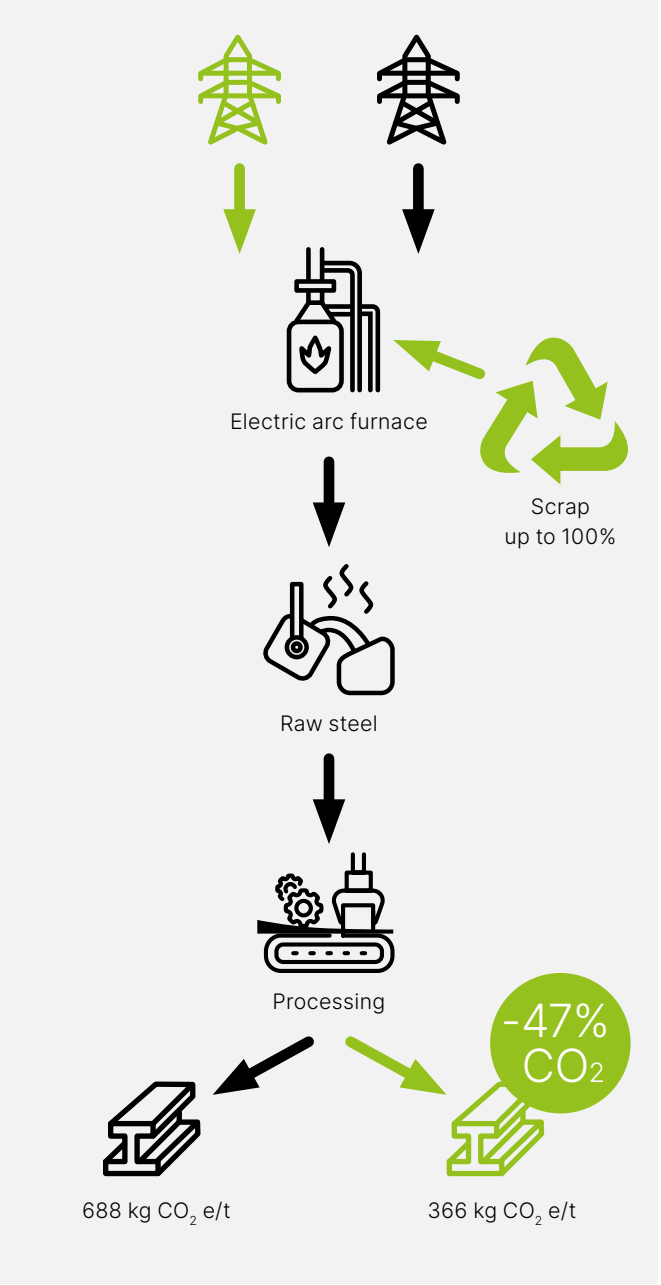
Every construction site is different. That's why our service always starts with a consultation, where we work together with our customers to select the right materials and machinery for a customised solution. For every challenge, our range offers more than just one option.

This also applies to sustainability. With a wide variety of products in our portfolio, we already meet the EU's 2030 emission reduction targets today.

It's worth making comparisons here as well – starting from the manufacturing processes to the materials themselves. Our steel beams stand out with an impressive CO_2 value of 688 kg CO_2 e/t, even without the use of green electricity. Since 1996, our beams have been produced using a low-emission electric arc furnace process with 100% scrap recycling. The power supply comes from a residual electricity mix, with no double counting of assigned renewable energy.

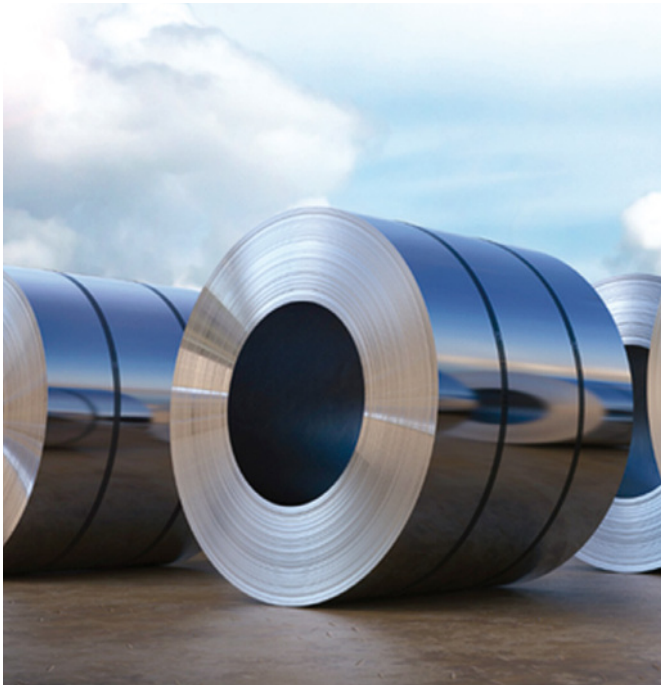
For customers with an even stronger focus on their CO_2 footprint, we offer a green alternative: beams with a CO_2 value of just 366 kg CO_2 e/t, produced via the electric arc furnace route. This is achieved with 100% scrap recycling and green electricity sourced directly from wind power. With this product range, you can reduce CO_2 emissions by 47% already today!

Electric arc furnace route



We are following a similar approach with our hot-rolled sheet piling range, offering a CO_2-reduced variant of our primary material produced in the electric arc furnace. By 2027, sheet piles made from slabs with an even lower CO_2 footprint will complement our range. Since 2023, our decarbonisation strategy has been further advanced with sheet piles made from hydrogen-based steel production, enabling us to continuously support you as a reliable partner in achieving your emission reduction targets with a wide range of products based on the latest technologies.

In addition, our sheet piling range naturally also includes sheet piles made from cold-rolled coils, which, if the intended use of the project is permissible, can significantly reduce your carbon footprint even further. Our extruded PVC profiles are the alternative with the lowest CO_2 emissions, comprising 88% recycled material and 70% recyclable after use. Alternatively, leftovers can also be used to generate energy.



FOR OUR CLIMATE, IT'S WORTH COMPARING

CO_2 emissions can be reduced by selecting the appropriate sheet piling type and profile as well as the selected base material, focusing on the intended use, the required bearing capacity and the material resistance – this enables a customized and sustainable solution for every project.

Comparison CO_2 footprint of different sheet pile profiles (selection)

Example profile	**tkL603**	**tkL603**	**FLP 700/8**	**FLP 700/8**	**PVC GW 600**
Manufacturer process	hot-rolled	hot-rolled	cold-moulded	cold-moulded	extruded
Input material	regular	CO_2-reduced slabs	regular	CO_2-reduced coils	Recycling products
Length	10,00 m	10,00 m	10,00 m	10,00 m	10,00 m
Weight	107 kg/m²	107 kg/m²	88.45 kg/m²	88.45 kg/m²	23.00 kg/m²
Section modulus	1,200 cm³/m	1,200 cm³/m	540 cm³/m	540 cm³/m	/
CO_2-emission/ to*	1.88 E+ 3 kg CO_2/to	9.12 E+ 2 kg CO_2/to	n.a.	n.a.	5.24 E+ 2 kg CO_2/to
CO_2-emission/ m²*	2.01 E+ 2 kg CO_2/m²	9.76 E+ 1 kg CO_2/m²	n.a.	n.a.	1.21 E+ 1 kg CO_2/m²
CO_2-emission comparison/ m²*	100%	49%	n.a.	n.a.	6%

* In relation to the hot-rolled input material tkL603

Data table sheet piles

	Height (cm)	Width per single pile (cm)	Section modulus Wy (cm^3/m)	Weight single pile (kg/m)	Weight per wall (kg/m^2)	Co_2 kg/m^2 regular input material	Co_2 kg/m^2 Co_2-reduced input material
tkL601	310	600	744	46.30	77.20	1.45 E+ 02	7.04 E+ 01
tkL 602	310	600	842	53.40	89.00	1.67 E+ 02	8.12 E+ 01
tkL603	320	600	1.200	64.20	107.00	2.01 E+ 02	9.76 E+ 01
tkL 604 A	390	600	1.564	71.00	119.30	2.24 E+ 02	1.09 E+ 02
tkL 604	390	600	1.618	73.10	121.80	2.29 E+ 02	1.11 E+ 02
tkL605 A	420	600	1.821	75.20	125.30	2.36 E+ 02	1.14 E+ 02
tkL605 N	420	600	2.021	82.10	136.90	2.57 E+ 02	1.25 E+ 02
tkL606 A	430	600	2.205	85.40	142.30	2.68 E+ 02	1.30 E+ 02
tkL 606 N	430	600	2.502	94.10	156.80	2.95 E+ 02	1.43 E+ 02
tkL 628	455.1	600	2.841	101.80	169.60	3.19 E+ 02	1.55 E+ 02
tkL 607	456.5	600	3.211	112.40	187.30	3.52 E+ 02	1.71 E+ 02
FLP 700-8	151	700	540	61.90	88.40		
FLP 750-8	285	750	1.044	76.60	102.00		
KD 600-8	80	600	237	50	83.30		

Data table wide flange beams

	Height (cm)	Width per single pile (cm)	Section modulus Wy (cm^3/m)	Technical weight (kg/m)	Co_2 fig/m regular input material	Co_2 kg/m Co_2-reduced input material
HEB 160	160	160	311	42.59	2.93 E+ 01	1.56 E+ 01
HEB 180	180	180	426	51.22	3.52 E+ 01	1.87 E+ 01
HEB 200	200	200	570	61.29	4.22 E+ 01	2.24 E+ 01
HEB 220	220	220	736	71.47	4.92 E+ 01	2.62 E+ 01
HEB 240	240	240	938	83.20	5.72 E+ 01	3.05 E+ 01
HEB 260	260	260	1.150	92.28	6.35 E+ 01	3.38 E+ 01
HEB 280	280	280	1.380	103.10	7.09 E+ 01	3.77 E + 01
HEB 300	300	300	1.680	117.00	8.05 E+ 01	4.28 E+ 01
HEB 320	320	300	1.930	126.70	8.72 E+ 01	4.64 E+ 01
HEB 340	340	300	2.160	134.20	9.23 E+ 01	4.91 E+ 01
HEB 360	360	300	2.400	141.80	9.76 E+ 01	5.19 E+ 01
HEB 400	400	300	2.380	155.30	1.07 E+ 02	5.68 E+ 01
HEB 450	450	300	3.350	171.10	1.18 E+ 02	6.26 E+ 01
HEB 500	500	300	4.290	187.30	1.29 E+ 02	6.86 E+ 01

MACHINERY

OPTIMAL MACHINERY AND EQUIPMENT ARE THE KEY TO COST-EFFECTIVE WORK

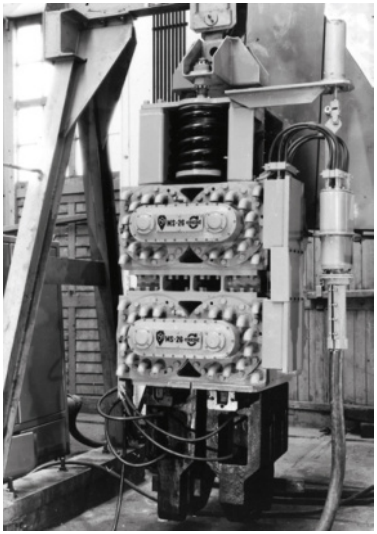
We supply our customers with all the machinery and equipment they need to drive steel sheet piles, pipe piles, beams and other pile sections regarding easy to complex pile driving jobs. We also provide drilling technology for every field of application: from anchor and geothermal drilling rigs, drilling mounts and hammer drills to double-head drilling rigs. In addition, we supply convincing technical concepts for an economical realisation of the construction project.

ELECTRIFICATION OF CONSTRUCTION MACHINERY

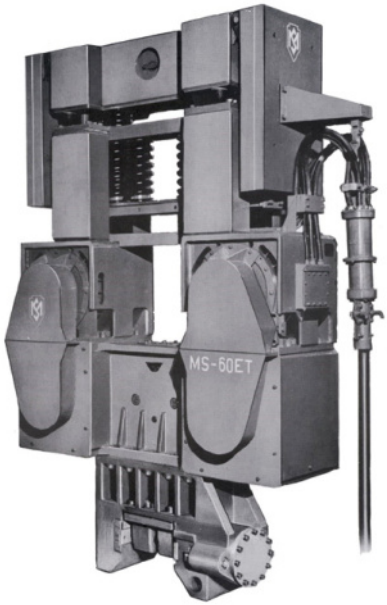
Since the 1960s, electric vibratory hammers have been a core part of the MÜLLER vibration technology product range. At that time, the electric engines mounted on the vibratory hammers still drew their drive power from diesel-powered generators. At that time, the widespread availability of mobile hydraulics was still limited, which is why electric motors were the preferred drive solution.

Although the three-phase asynchronous motors used were robust and easy to handle, they were also heavy and not very powerful – characteristics that still apply today (compared to mobile hydraulic components).

With the rise of mobile hydraulics in the late 1970s and early 1980s, the drive technology changed. Hydraulic motors and pumps impressed with their high power density, meaning high performance in a compact design. Diesel remained the preferred energy source: diesel engines were now used to operate pumps that, in turn, supplied hydraulic motors to the vibratory hammers – a departure from the diesel generators that had previously powered the electric motors.



MÜLLER MS-26 D (Year of Manufacture: 1965)



MÜLLER MS-60 ET

OUR SOLUTION AT MÜLLER: ZERO EMISSIONS AT HALF THE PRICE

The current situation has changed significantly: modern electric motors, such as the permanent magnet synchronous motor (PMSM), offer significantly better performance than the electric motors from the 1960s. At the same time, the need for CO_2 reduction requires a shift away from traditional diesel as an energy source.

Our solution addresses three key aspects:

- We retain the established hydraulics with its high energy density. This means that all vibratory hammers currently on the market can not only continue to be operated/used but can even do so emission-free in the future.
- When using electric components, we rely on the latest technologies, such as PMSM motors, which offer high performance in a compact design.
- We offer a fully emission-free electric-hydraulic drive unit (when using 100% power from renewable energy sources). This can be operated either with a battery or, if available on-site, by connecting directly to the existing construction power supply. The battery has sufficient capacity to ensure operation for an entire workday. At the end of the day, only the unit needs to be replaced, which is a significant advantage. Accordingly, this results in 100% emission reduction with a 50% investment savings for a new vibratory hammer.

Our four modular power packs, including modular battery storage units, can be operated in completely autonomously or connected to the power grid in parallel to extend usage time or reduce battery size. Vibratory hammers up to the size of an MS-28 HFV (medium-sized) can thus be operated:

- **MS-A 170 E**
  170 kW hydraulic output -> approx. 290 l/min. oil flow rate
- **MS-A 240 E**
  240 kW hydraulic output -> approx. 410 l/min. oil flow rate
- **MS-A 315 E**
  315 kW hydraulic output -> approx. 540 l/min. oil flow rate
- **MS-A 410 E**
  410 kW hydraulic output -> approx. 700 l/min. oil flow rate

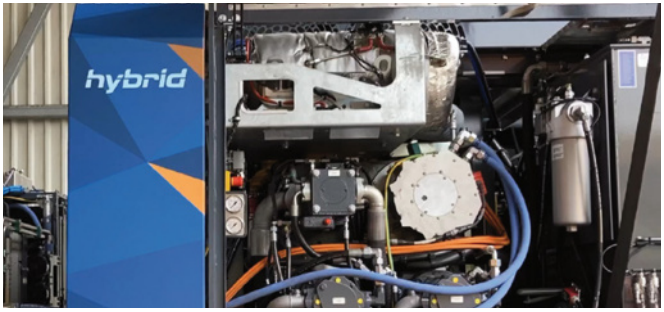
Our self-sufficient power packs offer the opportunity to optimize the range of the batteries over a long time period or for large construction sites thanks to innovative solutions. Construction machines can be designed to work efficiently under these conditions, ensuring operational continuity through the use of mobile charging units or regular battery changes. Additionally, the battery storage units can be fully recharged overnight using a standard construction site power distributor (63A).

RTG HYBRID

With our RTG ramming technology products from the internationally operating Bauer Maschinen Group, we are your specialist for energy-efficient vibration, ramming and pressing technology. Our RTG telescopic and rigid piling rigs are designed for the transmission of high forces of pressure / compressive force and to absorb torques. Together with the high installed motor capacities, they are ideally suited as carrier machines for a wide range of applications, such as excavation pits, pile foundations, piling work, bridge and port construction, as well as urban construction sites with emission regulations.

To drive the decarbonisation process forward, you will find the eRG19 hybrid telescopic guide in our range. The hybrid drive combines two different driving systems, the diesel engine – for maximum output when high power is required – and the electric motor – for low-emission and low-noise work, ideal for use in environmental protection areas or inner-city sites with strict noise and emissions regulations. The advantages of this technology are convincing:

- **Flexibility:** demand-oriented power control between electric and diesel engine – enabling use in areas without direct power supply and in environmentally sensitive zones.
- **Productivity:** increased productivity through improved efficiency.
- **Fuel efficiency:** up to 68% reduced fuel consumption through the additional electric drive.
- **Emission reduction:** up to 45 kg/h reduced CO_2 emissions – ideal for achieving sustainability goals.
- **Optimised parallel operation** of main and auxiliary consumers.
- **Noise reduction:** quieter operation at more sensitive projects - reduced sound power of up to 2 dB (A).

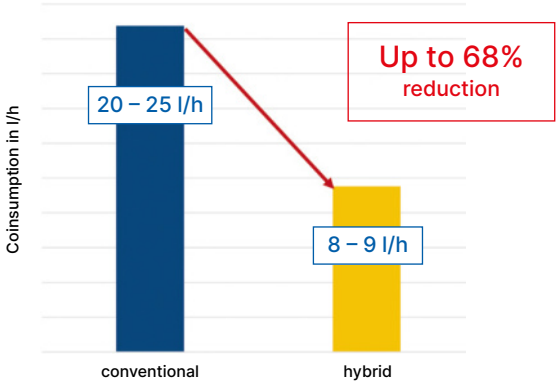


The RG19 T hybrid power unit utilizes an 80 kW electric motor in addition to RTG's 430 kW diesel engine, which can operate either independently or even simultaneously.

- The diesel engine ensures that the system can be used at any time, even without an external power connection.
- The electric motor can be activated when a power connection is available.
- The combined power output of both engines is 510 kW.

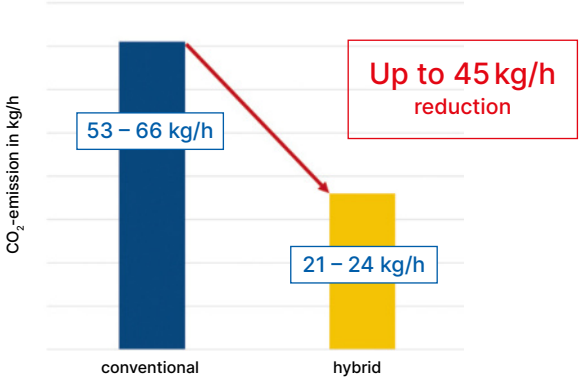
RG19 T Hybrid – real construction site*

Diesel consumption complete



CO_2-emission

(hypothesis 1 l fuel = 2,65 kg CO_2-emission on exhaust)



* Construction site measurements Friedrich-Krause-Ufer, Berlin, Germany (2024)

RG19 T HYBRID

Machine data RG19T Hybrid

	Unit	
Max. leader height (extended, min. projection)	m	23.9
Max. pile length (with vibrator)	m	19.0
Leader tilt (to the front / back / side)	°	4 / 10 / 4
Leader rotation (right/left)	°	95 /95
Max. preload force on the vibrating carriage (ramming)	°	140
Max. preload force on the vibrating carriage (pulling)		200
Permissible torque	kNm	80
Transport length (without auxiliary winch)	m	12.2
Transport height	m	3.4
Transport width	m	3.0
Total weight (without auxiliary winch) approx.	t	54.7
Total weight with auxiliary winch approx.	t	55.5

Modular *hybrid* Line

Telescope rigs

RG 14 T BS 55 R	RG 16 T BS 55 RS	RG 16 T BS 65 RS	RG 19 T BS 65 RS	RG 21 T BS 65 RS
BS 61 eh	BS 61 eh	BS 61 eh	BS 61 eh	BS 61 eh

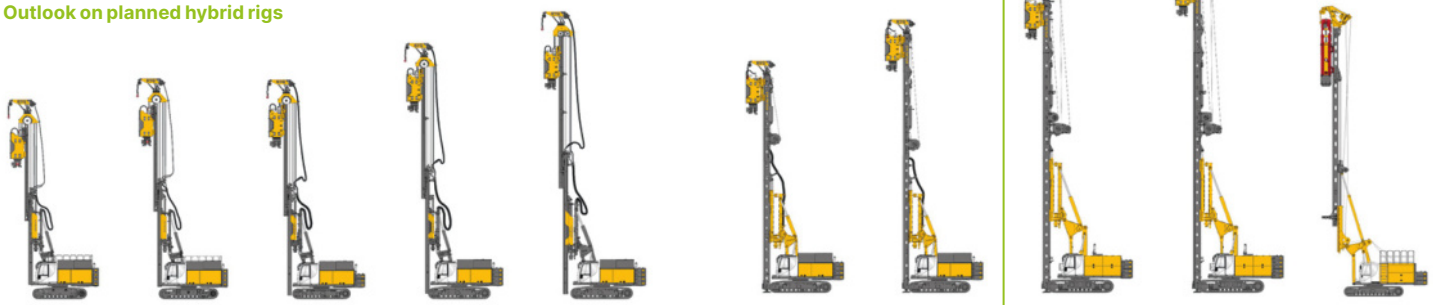
Fixed leader rigs

RG 18 S BS 65 RS	RG 22 S BS 65 RS	RG 25 SC BS 90 RS	RG 27 S BS 90 RS
BS 61 eh	BS 61 eh		

Hammer/DTH rig

RM 20 BT 55 S

Outlook on planned hybrid rigs



TRENCH SHORING

UNIQUE EXPERTISE – FOR OVER 75 YEARS

With our E+S and KRINGS shoring systems, we provide cost-effective technical processing solutions for numerous civil engineering projects, both domestically and overseas markets – always considering all safety-relevant aspects. And we have been doing this for over 75 years.

Since every construction site presents its own unique challenges, our project-related consulting services are of particular importance. Together, we will find the right product from our extensive range to secure your trench or excavation.

Whether our E+S Linear and Box shoring for large-scale construction projects – such as very large and wide excavations – or our KRINGS edge-supported shoring system, which is particularly versatile for securing excavations and takes up little space when mounting and transporting thanks to its smaller dimensions. Installation on-site is quick and straightforward.

We offer our shoring systems not only for purchase but also for rental, ensuring maximum flexibility. Our product portfolio is complemented by a range of accessories and additional products, such as lightweight aluminum shoring, fall protection systems, and cable winches.

USE OF CO_2-REDUCED STEELS POSSIBLE

CO_2-reduced cold-rolled coils can also be used for our trench shoring plates, following the same steel manufacturing process (using gray / green pre-material as in sheet piling).

Cold-rolled coils offer excellent surface quality and precision, which is advantageous for many applications, including trench shoring. The material is selected based on the specific requirements of each product – such as strength, flexibility, and corrosion protection.

In many cases, special or alloyed steels are also used for trench shoring systems, providing even greater durability and robustness.

Photo: Franz KASSECKER GmbH

RENTAL PROMOTES THE CIRCULAR ECONOMY

Sustainability is not an option – it is our responsibility!

terra infrastructure is among the world's best-known providers of trench shoring. We offer a wide range of trench shoring equipment and supplementary products. Our portfolio also includes temporary construction site roads made of steel or plastic. For the latter we additionally provide installation services.

For many construction projects, it is more economical to hire the shoring system. Our extensive range of rental equipment means we can also provide our customers with a suitable system, even for large-scale projects.

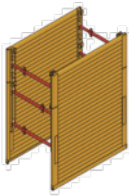
However, rental means much more than just cost savings:

Through multiple reuse of our products, their lifecycle is significantly extended. This increases utilisation and reduces resource consumption – making a crucial contribution to environmental protection. Additionally, no extra CO_2 is emitted during the rental period. As a result, renting actively helps protect the environment and serves as a key component of the circular economy.

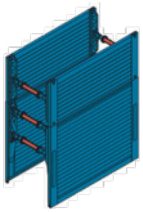
At the end of the lifecycle, only pure steel scrap remains, which can be 100% recycled and used for the production of new trench shoring elements.

OVERVIEW BOX SYSTEMS

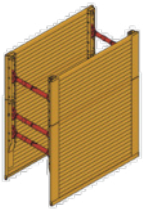
Recommended shoring depth: max. 3.50 m



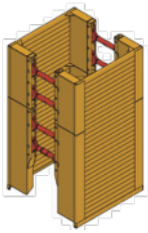
KRINGS KVL
Rec. shoring depth: max. 3.50 m
Rec.: mobile excavator 9 – 13 t



E+S LBR
Rec. shoring depth: max. 3.50 m
Rec.: mobile or crawler excavator
Base box only: 12 – 18 t
With top unit: 18 – 30 t

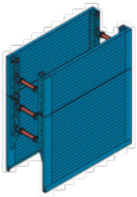


KRINGS KS 60
Rec. shoring depth: max. 3.50 m
Rec.: mobile or crawler excavator
Base box only: 12 – 18 t
With top unit: 18 – 30 t

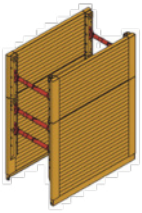


KRINGS KS 60 Eck
Rec. shoring depth: max. 3.50 m
Rec.: mobile or crawler excavator
Base box only: 12 – 18 t
With top unit: 18 – 30 t

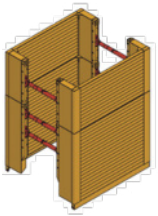
Recommended shoring depth: max. 4.00 m



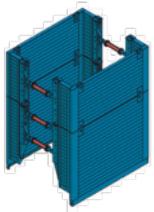
E+S Medium
Rec. shoring depth: max. 5.00 m
Rec.: mobile or crawler excavator
Base box only: 12 – 18 t
With top unit: 18 – 30 t



KRINGS KS 100
Rec. shoring depth: max. 4.00 m
Rec.: mobile or crawler excavator
Base box only: 12 – 18 t
With top unit: 18 – 30 t

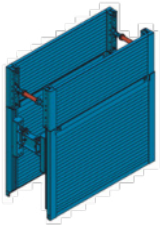


KRINGS KS 100 Eck
Rec. shoring depth: max. 4.00 m
Rec.: mobile or crawler excavator
18 – 30 t

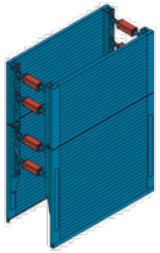


E+S Manhole
Rec. shoring depth: max. 4.00 m
Rec.: mobile or crawler excavator
18 – 30 t

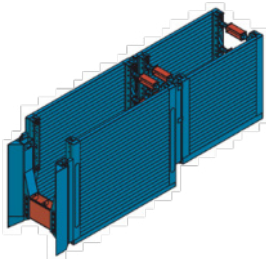
Recommended shoring depth: max. 6.00 m



E+S Linearbox
Rec. shoring depth: max. 5.00 m
Rec.: mobile or crawler excavator
18 – 30 t

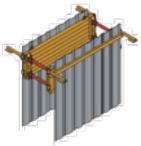


E+S Magnum
Rec. shoring depth: max. 6.00 m
Rec.: mobile or crawler excavator
18 – 30 t

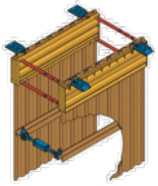


E+S Dragbox
Rec. shoring depth: max. 5.00 m
Rec.: crawler excavator 30 – 50 t

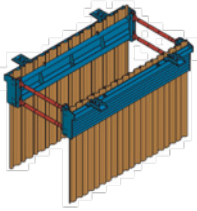
Recommended shoring depth: variable



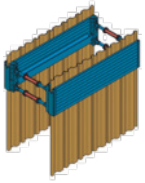
KRINGS BLU 2.41 m
Rec. shoring depth: max. 2.40 m
Rec.: mobile excavator 9 – 13 t



KRINGS DKU 2.27 m/3.00 m/3.81 m
Rec. shoring depth: variable
Rec.: mobile or crawler excavator
12 – 18 t

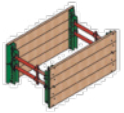


KRINGS DKU 4.55 m/5.80 m
Rec. shoring depth: variable
Rec.: mobile or crawler excavator
18 – 30 t

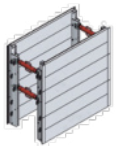


E+S DKE 3.63 m/4.03 m
Rec. shoring depth: variable
Rec.: mobile or crawler excavator
12 – 18 t

Recommended installation depth: max. 3.00 m



KRINGS Flex-shoring
Rec. shoring depth: max. 2.00 m
Rec.: mini excavator 3 – 9 t

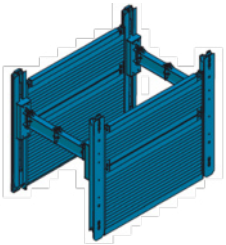


Alu-lightweight shoring
Rec. shoring depth: max. 3.00 m
Rec.: mini excavator 3 – 9 t

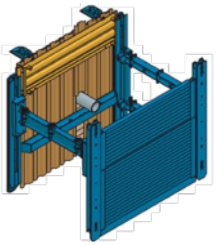
KRINGS Corner shoring
Rec. shoring depth: max. 2.35 m
Rec.: mobile excavator 9 – 13 t

SLIDE-RAIL SYSTEMS E+S LINEAR SHORING

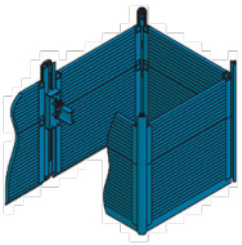
Recommended shoring depth: max. 4.00 m



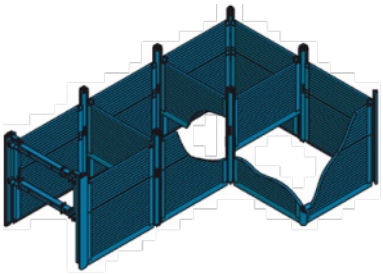
Single slide rail linear shoring
Rec. shoring depth: 4.00 m
Rec.: mobile or crawler excavator 18 – 30 t



Single slide rail inner-city linear shoring
Rec. shoring depth: 4.00 m
Rec.: mobile or crawler excavator 18 – 30 t

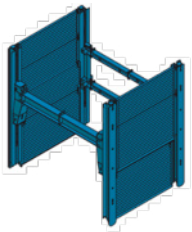


Single slide rail corner shoring
Rec. shoring depth: 4.00 m
Rec.: mobile or crawler excavator 18 – 30 t

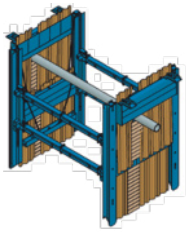


Single slide rail linear shoring – X-rail
Rec. shoring depth: 4.00 m
Rec.: mobile or crawler excavator 18 – 30 t

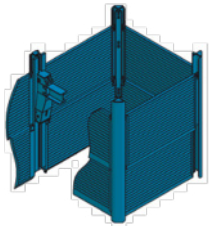
Recommended shoring depth: 5.00 m – 9.00 m



Double slide rail linear shoring
Rec. shoring depth: 5.00 m – 9.00 m
Rec.: crawler excavator
max. 6.0 m: 24 – 31 t, over 6.0 m: 30 – 50 t



Double slide rail inner-city linear shoring
Rec. shoring depth: 5.00 m – 9.00 m
Rec.: crawler excavator
max. 6.0 m: 24 – 31 t, over 6.0 m: 30 – 50 t

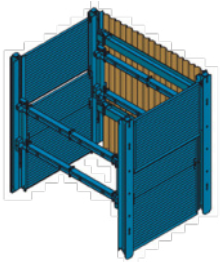


Double slide rail corner shoring
Rec. installation depth 5.00 m – 6.00 m
Rec.: crawler excavator 24 – 31 t

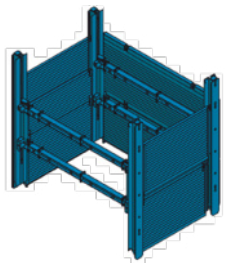
Recommended shoring depth: max. 12.00 m

Deep linear shoring
Rec. shoring depth: max. 12.00 m
Rec.: crawler excavator 50 t

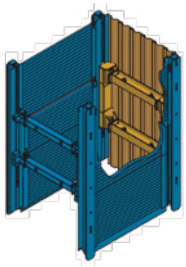
More shoring options



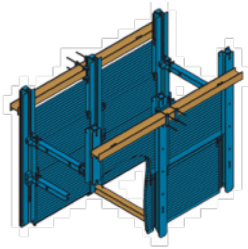
Head end shoring with head end shoring adapter and sheet piles
Rec. installation depth: variable



Head end shoring with slide-rail panels
Rec. installation depth: variable



Head end shoring with head end shoring strut cart and sheet piles
Rec. installation depth: variable



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