

A full-page background image showing a worker in an orange high-visibility suit and helmet using a yellow and blue Husqvarna K1270R rail welding machine on a track. The worker is wearing black gloves and boots. The machine is labeled 'K1270R' and 'Husqvarna'. Sparks are visible from the welding process. The background is a gravel track with rails.

# Rail Welding Equipment





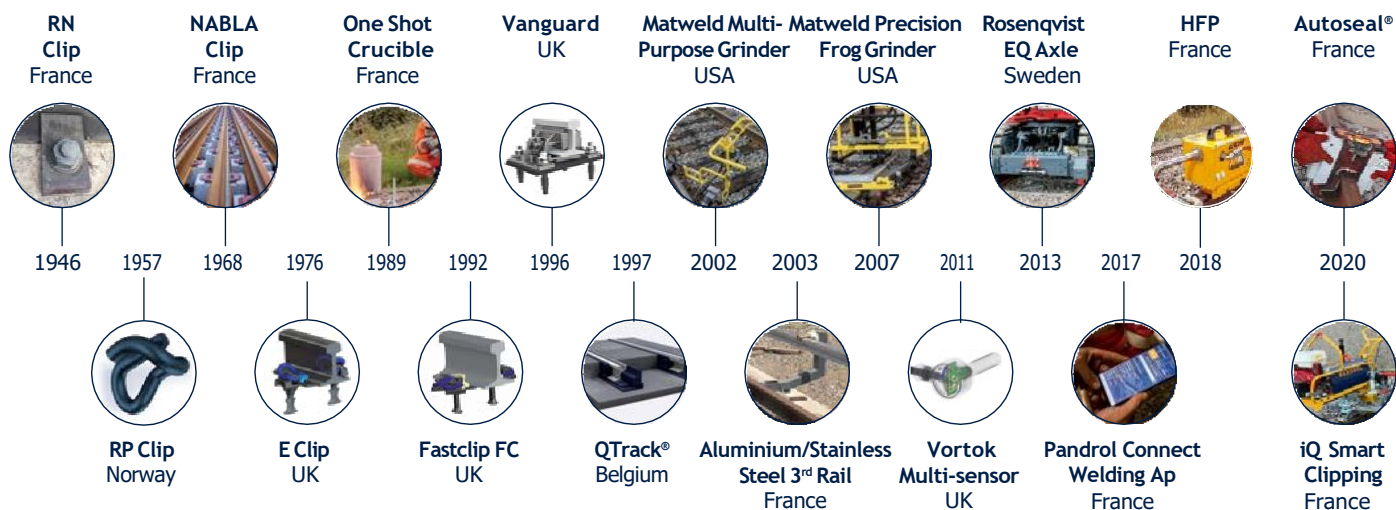
## Partners in Excellence

Pandrol defines the industry standard across rail fastening systems and aluminothermic welding. We've created rail infrastructure in more than 100 countries with our products and services extending to designing, developing and manufacturing equipment to make constructing and maintaining railways more efficient. That means we've experienced just about every situation, problem, question and solution before.

## Our Story

Part of the Delachaux Group, Pandrol is a business founded on a passion for innovation, and our unique heritage is still at the heart of how we do business today. Over 100 years of product development, engineering know-how, acquisitions and growth has enabled us to become a world leader and global employer with over 1700 team members across 40 locations.

In 2017, all the businesses within the rail division of the Delachaux Group were united under the single brand of Pandrol, including Railtech - specialist in welding equipment and electrification solutions, Vortok - specialist in rail equipment, Pandrol CDM Track, Rosenqvist Rail, Matweld, SRS and fastenings systems solution company Pandrol.



## A complete end-to-end-service

We are technicians, engineers, developers and designers who solve customers' complex problems using our unique history of innovation and an endless pursuit of new thinking. We support our customers at every stage of the process, from design and installation right through to operation, monitoring and maintenance.



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# 1

## Protective Worker Equipment

Pandrol provides a range of protective products to ensure the safety of track workers during operation, even under poor weather conditions.

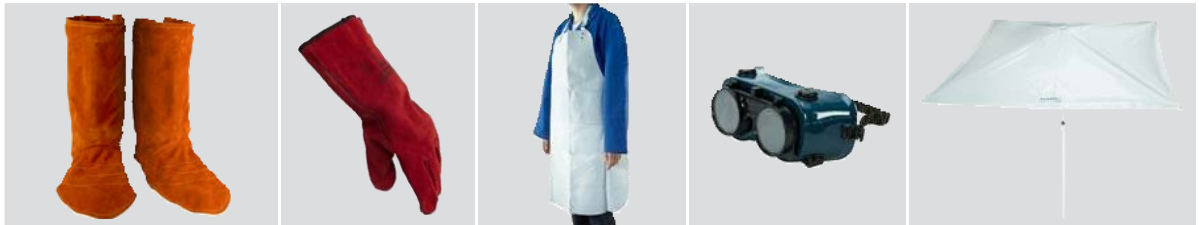


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## Personal protective equipments

Adapted clothing and protective accessories, essential for working safely on-track.



Technical Specification					
Description	Metallic frame with spring effect, internal lining in leather, up part in leather RHT double thickness, strap under the tread	Welder gloves, 5 fingers in leather full grain sleeve 150 mm	Welder Overall in leather, one part, fixation and strap riveted, dimensions 90 x 70 cm	Glasses for welding and grinding, mask type, tinted optical (tint 7) switchable on white optical	Umbrella white PVC, square, dimensions 1,83 x 1,83 m
Item number	TSV00008	48801002	TSV00005	48802004	TSV00012

## Safety barrier

The Pandrol Safety Barrier is designed for worker protection and is widely used in many countries including the UK, Germany, Australia, Belgium, Sweden and Norway. The barrier provides an effective safe zone for track workers (Green zone in the UK) and fits virtually all rail types internationally.

ADVANTAGES:

- Cost savings
- Improved track safety
- Quick & easy to Install
- All components are fully re-usable



## Track Welding Tent

Aluminothermic welding on track can often be complicated in harsh weather conditions such as rain and wind. The RW25 Track Welding Tent provides essential protection to ensure that high-quality welds can still be achieved.

ADVANTAGES:

- Ensures high quality welds during wind, rain, and snow
- Approved by the SNCF, with wind withstand up to 70 km/h
- One welder can quickly assemble and disassemble
- Significantly reduces track downtime

Technical Specification	
Description	Track welding tent
Item number	TSV00010
Material	PVC
Dimensions	2600 x 2600 x 2100 (height) mm
Weight	23 kg





# 2



## Clipping Equipment

Pandrol develops and manufactures a wide range of modern clipping equipment which drives efficient construction and maintenance of rail infrastructure.

Pandrol clipping machinery adds value to tasks from track renewals and installation to welding and sleeper change operations.



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## Clipping Equipment

## Battery powered CD100 B

This versatile small clipping tool is perfect for clipping and declipping Pandrol Fastclips. Ergonomically designed and battery powered, CD100 B is ideal for smaller clipping and declipping applications.

It has its own power supply and a weight bearing wheel that run along the rail to prevent back injuries among operatives. Designed with a quick connect interface, the patented CD100 B comes in three modules: the power pack, the clipping tool and the declipping tool. It can be coupled quickly and easily to other tools and can lift sleepers up to 10 mm if required.

**Thermic version available.**

### ADVANTAGES:

- Easy to use
- Clips up to 10 sleepers per minute
- Can be transported in a car or pickup
- Small and portable tool that well suited to maintenance teams

3 modular units consisting of:

Technical Specification			
Unit	Power Unit	Clipping Tool	Unclipping Tool
Capacity	-	10 sleepers / min	
Weight	18.5 kg	23 kg	25 kg
Length	480 mm	580 mm	560 mm



## Clipping Equipment

## Clip Driver CD200 IQ

Clip Driver CD200 IQ is the first machine in our new IQ series with intelligent control systems that streamline operations, whilst providing information on clips installed and operating hours.

CD200 IQ is modular built to enable it to be easily lifted on and off track. It is simple to change between the two tools for Fastclip and e-clip with the mechanical and hydraulic quick connections.

The CD200 IQ has the patented built-in sleeper lift function enabling a lift of low lying sleepers up to 50 mm. A fail-safe mechanical parking brake is available as an option.

Technical Specification	
Capacity	Up to 20 sleepers / min (Fastclips) Up to 10 sleepers / min (e-clip)
Weight powerpack	108 kg
Weight trolley	50 kg
Weight tool Fastclip	100 kg
Weight tool e-clip	117 kg
Height	1 050 mm
Length	2 100 mm
Width	1 980 mm





# 3

## Cutting Equipment

As rail track technology continues to make major advances to cope with increasing axle weight and tonnage, the steel used for tracks has become purer and harder.

This, combined with high levels of carbon, manganese and silicon and the heat treatment used in manufacturing, has made cutting operations an increasing challenge. At Pandrol, we recognised that rail maintenance teams needed a new, powerful solution for cutting heavy duty steel track.



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## Rail Saw

# HC355 / HC406 / HC305

The Pandrol Rail Saw ensures fast and accurate cutting of rails of all profiles and grades. The ergonomic design of the rail clamp prevents physical stress.

The machine is equipped with a safety device that prevents sawing operation without the support arm. The device fixing, reversible on the support arm, enables the saw to be positioned on the inside or the outside of the track without dismantling the tightening jaw. The cutting guide helps to ensure the support arm jaw is placed in exactly the right position for cutting.



### ADVANTAGES:

- High-quality cutting thanks to the support arm
- A range of safety features to protect operators
- Powerful engine and high power transmission rate make it fast and efficient
- Setting up the saw is quick and easy
- The Pandrol Rail Saw is available in different versions depending on the type of rail and the preferred size of cutting

Technical Specification				
Description	HC355 Vignole 3 Position Arm - Gas	HC355 Universal 3 Position Arm - Gas	HC406 Universal 3 Position Arm - Gas	HC305 Universal 3 Position Arm - Gas
Item number	14221031	14221032	14221034	14221030
Saw engine	Husqvarna K1270	Husqvarna K1270	Husqvarna K1270	Husqvarna K1270
Energy	2 strokes gas engine	2 strokes gas engine	2 strokes gas engine	2 strokes gas engine
Power	5,8 kW at 10 000 rpm	5,8 kW at 10 000 rpm	5,8 kW at 10 000 rpm	5,8 kW at 10 000 rpm
Support arm	Vignole	Universal	Vignole	Universal
Disc size	355 mm / 14" / bore 25.4 mm	355 mm / 14" / bore 25.4 mm	406 mm / 16" / bore 25.4 mm	305 mm / 12" / bore 22.2 mm
Total weight saw (+ arm)	21 (+8) kg	21 (+10) kg	21 (+10) kg	21 (+10) kg
Rail type				
Vignole	Yes	Yes	Yes	Yes
Grooved rail	-	Up to 150 mm (total width)	Up to 150 mm (total width)	Up to 150 mm (total width)
Tramway rail	-	Up to 150 mm (total width)	Up to 150 mm (total width)	Up to 150 mm (total width)
HEB 140/160	-	Yes	Yes	Yes

Rail support arm (not sold separately - to be paired with HC355 or HC406 engines)						
Description	Support arm 2.5 vignole	Support arm 2.5 for track rail	Support arm 2.5 for guiding rail	Support arm 2.5 universal	Support Arm 2.5 for MRS	Support Arm 2.5 for burbach
Item number	24221002	24221040	24221041	24221044	24221087	24221090
Weight	8 kg	10 kg	10 kg	10 kg	10 kg	10 kg
Rail type						
Vignole	Yes	-	-	Yes	-	-
Grooved rail	-	-	-	Up to 150 mm (total width)	-	-
Tramway rail	-	-	-	Up to 150 mm (total width)	-	-
Guiding rail	-	-	Yes	-	-	-
Track rail "I"	-	Yes	-	-	-	-
Crane rail	-	-	-	-	-	Yes
MRS	-	-	-	-	Yes	-
HEB 140/160	-	-	-	Yes	-	-



## Cutting discs

# Pandrol Alox

## Pandrol Zirconia

The Pandrol Alox cutting disc is a widely-used, well-proven product suitable for all applications.

The Pandrol Zirconia allows more cuts per disc and is both easy and comfortable to use.



## ADVANTAGES:

## Alox:

- Comfortable to use
- Enables operators to complete one to two welds before changing the disc

## Zirconia:

- Longer lifetime reduces waste and environmental impact
- More efficient; less time is spent changing discs

Technical Specification				
Description	Pandrol Alox	Pandrol Zirconia	Pandrol 305	Pandrol Alox
Specification	A24Q	ZA24Q	A24Q	A24Q
Material	Aluminium oxide	Zirconia	Aluminium oxyde	Aluminium oxide
Pack quantity	10	10	10	10
Cutting confort	***	****	***	***
Disc life	***	****	***	***
Dimensions	356 x 4x25,4 mm	356 x 4 x 25,4 mm	305 x 4 x 22,2 mm	406 x 4 x 25,4 mm
Item number	<b>47901041</b>	<b>47901044</b>	<b>47901028</b>	<b>47901042</b>
Compatible cutting machine	HC355 VIGNOLE 3 Position Arm - Gas (14221031) HC355 UNIVERSAL 3 Position Arm - Gas (14221032) HC355 VIGNOLE Spring Arm - Gas (14221035)	HC355 VIGNOLE 3 Position Arm - Gas (14221031) HC355 UNIVERSAL 3 Position Arm - Gas (14221032) HC355 VIGNOLE Spring Arm - Gas (14221035)	HC305 UNIVERSAL 3 Position Arm - Gas (14221030)	HC406 UNIVERSAL 3 Position Arm - Gas (14221034)







# 4

## Welding Adjustment Equipment

Our range of Welding Adjustment Equipment has been designed with efficiency in mind. It supports reduced track downtime and possession requirements.



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## Alignment Beam

### BA240

Pandrol's Alignment Beams ensure accurate aligning of free rails prior to aluminothermic welding.

#### ADVANTAGES:

- Easy to use
- For all types of rail
- Heavy duty construction
- Allows independent adjustment
- Ensures accurate positioning

#### ACCESSORIES:

- Detwisting system
- Support foot
- Pair of rail jacks
- Aluminium frame with 4 clamps

#### Technical Specification

Description	BA240
Item number	11131009
Weight	60 kg
Dimensions	2 630 x 800 x 270 mm



## A Frame Rail Aligner

### CR 57 / CR 61

The A Frame Rail Aligner delivers precision positioning of the rails prior to aluminothermic welding. Pandrol's A Frame range is designed for easy lifting, carrying, and operation. The aligner jaws can be modified to a wide range of global rail types.

#### ADVANTAGES:

- Suitable for all kinds of rail
- Heavy duty construction
- Lightweight alloy
- Ensures accurate alignment
- Guarantees the welding geometry

#### Technical Specification

Description	CR61 Universal	CR57 Grooved rail	CR57 Crane rail	CR57 Fastclip®
Item number	11111002	11111003	11111004	11111006
Rail type	Vignol rails	Grooved and Tramway rails	Crane rails	Vignol rails
Spread (distance between feet)	570 mm	570 mm	570 mm	570 mm
Width	160 mm	160 mm	160 mm	160 mm
Height	600 mm	600 mm	600 mm	600 mm
Weight	18 kg	18 kg	18 kg	18 kg



## Alignment

## Straight Edge

Our straight edges enable the welder to properly crown the rail ends to the desired height with ease. Flat or adjustable straight edges are essential tools, used before casting aluminothermic welds.



### ADVANTAGES:

#### Straight edges

- Laser-engraved graduation
- Treated steel
- Ergonomic handle

#### Magnetic straight edge

- Lightweight
- Maximum stability
- Adjustable height knobs

### Technical Specification

Description	1,0 m magnetic straight edge with adjustable stands calibrated - RAP1000	1,0 m steel straight edge, calibrated - RP1000	1,0 m bevelled edge 1,0 m, large handle, calibrated - Bevelled-Edge 1000	1,0 m bevelled straight edge, calibrated - RB1000	0,5 m bevelled straight edge, calibrated - RB500	0,7 m bevelled straight edge, calibrated - RB700
Item number	19123022	19123024	19123014	19123020	19123021	19123023
Protective case	Included	Included	Included	Included	Included	Included
Length	1,00 m	1,00 m	1,00 m	1,00 m	0,50 m	0,70 m
Protective case	PEHD case (42005001)	Soft case (29123012)	-	-	-	-



## Rail Stressor

### TR75

The Rail Stressor TR75 has been designed for the stress relief or replacement of continuous welded rails (CWRs). It is used during maintenance works to stretch long welded rails before aluminothermic welding and to secure the tensioned rail while cutting. It is capable of joining and maintaining a constant gap between the two rail ends.

Fitted with a hydraulic power unit and an integrated hand pump, the Rail Stressor TR75 is flexible enough for use in any rail setting, including tunnels and urban areas. It has gained SNCF homologation.



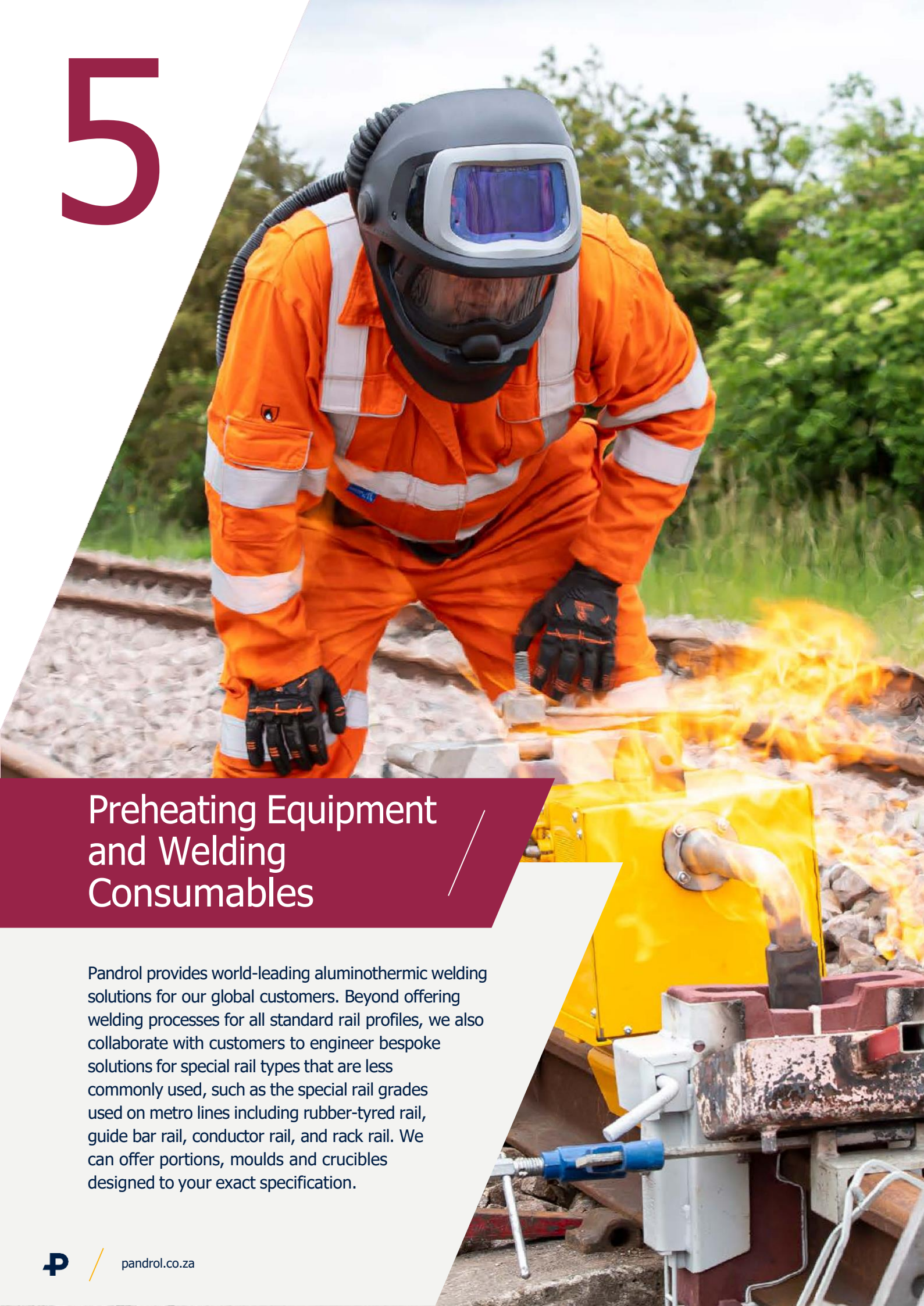
#### ADVANTAGES:

- Possible to be set up under the rail without obstructing the rolling surface
- Equipment can also be installed more quickly
- Designed for ease of use
- Only two people needed to install and operate the Rail Stressor

Technical Specification	
Description	TR75 Rail stressor with ball connectors
Item number	21121021
Traction force	700 kN
Pushing force	400 kN
Hydraulic ram stroke	380 mm
Total weight	270 kg
Accessories	
Hydraulic hand pump	21121062
Hydraulic petrol unit 580 bar	21121020
Set of hoses	21121043
Pressure release tool	11121010
Set of tie rods - length 1.20 m	11121003
Set of tie rods - length 1.80 m	11121002
Set of adjustable tie rods - length 1.20 m	11121004
Set of adjustable tie rods - length 1.80 m	11121005



# 5



## Preheating Equipment and Welding Consumables

Pandrol provides world-leading aluminothermic welding solutions for our global customers. Beyond offering welding processes for all standard rail profiles, we also collaborate with customers to engineer bespoke solutions for special rail types that are less commonly used, such as the special rail grades used on metro lines including rubber-tyred rail, guide bar rail, conductor rail, and rack rail. We can offer portions, moulds and crucibles designed to your exact specification.



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## Battery High Flow Preheater

### HFP

The High Flow Preheater has been designed as a universal preheating system, able to replace all current preheating equipment. It brings the best compromise between all technologies and has been automated for easier and more reliable operations.

#### ADVANTAGES:

- Lightweight and compact design
- Reduces weld-defect rate
- Generates significant cost savings
- Automation & Pre-set timing

Technical Specification				
Description	HFP 36V for Vignole rail	HFP 36V for Groove Rail	HFP 36V for Vignole rail	HFP 36V for Groove Rail
Item number	S000A473	S000B473	SC00A473	SC00B473
Battery	2 x 18 Volts			
Charger included	No	No	Yes	Yes
Weight	19 kg			
Dimensions	750 x 305 x 295 mm			



## Turbine preheating unit

### GP40

Equipped with a combustion engine or electrical motor which powers air compressor, the preheating unit GP40 ensures a good air-carburant mixture to guarantee preheating of the end of the rail.

#### ADVANTAGES:

- Sufficient Power for a speedy preheating
- Simple combustion adjustment for maximum efficiency
- Compact and light weight

Technical Specification		
Description	GP 40 TE	GP 40 TP
Item number	11211020	11211019
Engine	Petrol	Propane Gas
Electrical Power	2,94 kW (4 CV) at 3.600 rpm	2,94 kW (4 CV) at 3.600 rpm
Petrol Tank	2,0 litres	2,0 litres
Weight	50 kg	45 kg
Dimensions	675 x 380 x 490 mm	675 x 380 x 490 mm

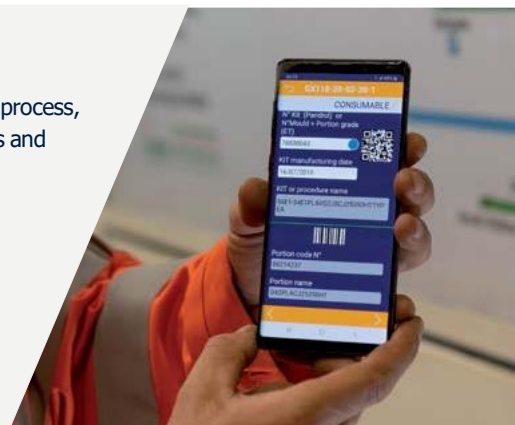


## Pandrol Connect

Pandrol Connect is a mobile app designed to support aluminothermic welders through the weld process, capture live data about the weld, save time and improve the traceability of welds for contractors and rail network operators. Access weld information on site even without internet access.

#### ADVANTAGES:

- Full traceability of welding
- Saves time for all users and drastically cuts down paperwork
- QR Code integration
- Welding instructions included
- Available now for Android and IOS devices



## Ignition System

### Startwel®

The Startwel® Ignition System allows the welder to easily ignite the weld charge to initiate the pour process of the Pandrol aluminothermic weld, replacing the traditional "sparkler" igniter design.

#### ADVANTAGES:

- Non-hazardous classification for transport
- Consistent ignition point
- Long-lasting lithium-ion battery

STARTWEL® IGNITION KIT: 82632508

Included in the kit	
82632506	1 empty Startwel® Suitcase
82632509	1 Starter Handle
82632504	1 14.4V battery
82632505	1 Battery Charger
82632502	1 Box of 100 Starters



## Vignole rail welding

### PLA / PLR

Pandrol offers market-leading solutions for the aluminothermic welding of vignole rail. This flat-bottomed, slim-webbed rail is commonly used on mainline and high speed tracks around Europe. Our vignole rail welding processes equip the user to perform new welds as well as wide-gap and head-wash repairs.

#### PLA

Pandrol's PLA process is one of the world's most cutting-edge aluminothermic welding approaches. It has been optimised from every technical perspective to minimise both the time requirement and defect rate, whilst delivering consistently excellent results.

#### PLR

The process is renowned for offering a high performing, safe, and simple solution to welding. All TGV lines in France have been welded using the PLR process and the world speed record on a high-speed line (574.8 km/h) was recorded on a track welded using PLR.



#### ADVANTAGES:

##### PLA :

- Track downtime minimised thanks to the faster process
- Consistently high-quality welds are produced, with a <0.5% defect rate

##### PLR :

- Low risk of defects needing repairs, meaning track downtime is minimised
- Consistent high-quality results that are simple to achieve
- The use of air-induced preheating is highly practical and reliable, requiring no adjustment and no oxygen tanks



## Grooved rail welding

### SRG / SRG-N

SRG is Pandrol's standard welding process for grooved rail and has been optimised to deliver consistently excellent results. An advanced version of this process is also available, the SRG-N process.

#### ADVANTAGES:

##### SRG

- Track downtime minimised thanks to the faster process
- Consistently high-quality welds produced, with a <0.5% defect rate

##### SRG-N

- Cost savings thanks to the standardisation of tools and preheating device between the PLR and SRGN processes
- New collar designed to improve performance on slow bending tests and to prevent cracks during cooling. It facilitates the installation of coating foams which improves the insulation of the track



## Crane Rail Welding

### APR

Pandrol's APR process sets the global standard for aluminothermic welding on crane rail. The process offers excellent results and has been designed specifically for environments including ports, dockland and warehouses.

#### ADVANTAGES:

- Process tailored to a variety of crane rail designs
- Standardised work steps, ergonomically designed process, and reciprocally compatible products, high quality welding results obtainable with relatively little training time
- New hardware design streamlines the installation of the moulds
- Several preheating options available that adapt to various site configurations



## Head Wash Repair Rail Welding

### HWR

Pandrol is a world leader in Head Wash Repair welding, which is a cost-effective and efficient solution to repairing railhead defects and significantly decreasing the maintenance cost of modern rail networks. It can also be used to repair flash butt welds, which often suffer from squats.

#### ADVANTAGES:

- Highly efficient compared to using plug rail
- Reducing the number of welds from two to one
- Available for all rail grades





# 6

## Shearing Equipment

Pandrol offers a range of equipment designed to support welders in delivering high quality welds efficiently and effectively. The product range is designed to be used alongside all aluminothermic welding processes.



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## Monobloc Battery-Operated Shear

# Compact-Shear B-M-VIR

The Lightweight Battery-Operated Weld Shear is Pandrol's solution to zero-emission shearing, delivering consistently fast and excellent results. Operation is simple and effective, and the machine is designed to operate with the included battery-operated non-impacting drill.

### ADVANTAGES:

- Makes track-work environments more environmentally friendly with zero emission
- Delivers high quality consistent results
- The lightweight design makes it easy for operators to safely lift on and off track



Technical Specification	
Description	Compact-Shear B-M-VIR
Item number	11334018
Application	For use in vignol rails, including switches and crossings - Inner Distance between cylinders = 328 mm
Shearing force	88 kN (8.8 tons)
Maximum hydraulic power	140 bar
Opening between blades	154 mm
Energy	Battery
Power	5.0 Ah
Dimensions	800 x 520 x 400 mm
Weight	45,3 kg
Blades	
Vignole	Type 32 (11335018) / Type 36 (11335019) / Type 40 (11335024) / Type 45 (11335022) / Type 48 (11335023)

Note : blades not included

## Accessories

The powerful Milwaukee® drill is delivered together with the weld shear. It can be operated separately as a drill and is easily plugged with the shear. The separate case with accessories protects the drill during transport and includes two batteries with a charger.



## Bi-Bloc Weld Shear

## EGH1, EGH2, EGH2 RAG

The Bi-Bloc Weld Shear EGH1/EGH2/EGH2 RAG is a hydraulic rail shearing machine designed to shear off excess metal after aluminothermic welding of Vignole rails.

The shear is operated by a separate hydraulic unit, either with an electrical motor or a gas power engine, which makes it lighter than other shearing machines as the hydraulic unit is not mounted on top.



## ADVANTAGES:

- With the shearing machine, there is no risk of damaging the rail
- The adjustable blades and guiding rollers result in much greater precision
- The powerful hydraulic unit significantly reduces grinding time, saving money and decreasing downtime

Technical Specification						
Description	EGH1 Narrow Hydraulic Shearing machine Vignole		EGH2 Wide Hydraulic Shearing machine Vignole		EGH2 RAG Wide Hydraulic Shearing machine grooved rail	
Item number	11332001		11332002		11332006	
Application	Can be used in switches and crossing (use “L” shape blades)		Specially designed for wide gap ATW process such as PLA68, WG68 and HWR – Head Wash Repair. Excluding switches and crossing		Excluding switches and crossing Use on Tramway rails with Head width (incl. groove) < 121 mm	
Shearing force	212 kN (21.5 tons)		212 kN (21.5 tons)		212 kN (21.5 tons)	
Maximum hydraulic power	250 bar		250 bar		250 bar	
Opening between blades	175 mm		175 mm		175 mm	
Energy	Hydraulic		Hydraulic		Hydraulic	
Dimensions	1020 x 315 x 270 mm		1000 x 450 x 480 mm		1000 x 450 x 480 mm	
Weight	43 kg		49 kg		49 kg	
Power unit						
Energy	Petrol	Electrical	Petrol	Electrical	Petrol	Electrical
Item number	19511007	19511014	19511007	19511014	19511007	19511014
Motor	Honda	Bosch	Honda	Bosch	Honda	Bosch
Power	4 kW at 3600 rpm	2600 W	4 kW at 3600 rpm	2600 W	4 kW at 3600 rpm	2600 W
Weight	39 kg	20 kg	39 kg	20 kg	39 kg	20 kg
Energy	740 x 440 x 420 mm	472 x 230 x 555 mm	740 x 440 x 420 mm	472 x 230 x 555 mm	740 x 440 x 420 mm	472 x 230 x 555 mm
Blades						
Vignole	Type 32 (11335018) Type 36 (11335019) Type 40 (11335024) Type 45 (11335022) Type 48 (11335023)				-	
Grooved rail	-				11335030	
Tramway rail	-				11335030	

Note : blades not included



## Monobloc Electrical Weld Shear

### EME1

The Monobloc Electrical Weld Shear EME1 is an electrical rail shearing machine designed to shear off the red-hot metal remaining around the rail head after aluminothermic welding of Vignole rails, for narrow area.. During aluminothermic welding, a deadhead of excess metal remains above the rail head. This was traditionally removed manually with a hammer and chisel.

#### ADVANTAGES :

- Compact design
- Greater precision thanks to the adjustable blades and guiding rollers
- Efficient thanks to the powerful hydraulic unit



## Weld Shear Hand-Pump

### EPM2

The manual shearing machine with incorporated hydraulic pump EPM2 is used to cut red hot metal after an aluminothermic weld. chisel.

#### ADVANTAGE :

- Pandrol's range of hydraulic hand pump shearing machines deliver a consistently safe and precise shearing of the excess weld



Technical Specification		
Description	EME1 Narrow Integral Unit Electrical Shearing machine	EPM2 Wide Hydraulic Shearing machine
Item number	11334010	11334004
Application	For use in vignol rails, including switches and crossings Inner Distance between cylinders = 210 mm	Specially designed for wide gap ATW process such as PLA68, WG68 and HWR (Head Wash Repair). Excluding switches and crossings
Shearing force	212 kN (21.5 tons)	212 kN (21.5 tons)
Maximum hydraulic power	250 bar	250 bar
Opening between blades	175 mm	175 mm
Energy	Electrical	Manual
Power	2600 W (50 Hz)	-
Dimensions	1200 x 470 x 450 mm	1200 x 490 x 500 mm
Weight	55 kg	63 kg
Blades		
Vignole	Type 32 (11335018) / Type 36 (11335019) / Type 40 (11335024) / Type 45 (11335022) / Type 48 (11335023)	

Note : blades not included

## Blades for shearing machines

## Shear blades

Our range of robust and long lifetime blades ensure a optimum shearing for your weldings.



Technical Specification						
Description	Type 32 for Vignole rail	Type 36 for Vignole	Type 40 for Vignole	Type 45 for Vignole	Type 48 for Vignole rail	Grooved rails
Item number	11335018	11335019	11335024	11335022	11335023	11335030
Compatible hearing machine	EME1 (11334010) / EPM2 (11334004) / EGH1 (11332001) / EGH2 (11332002) / Compact-Shear B-M-VIR (11334018)					EGH2 RAG (11332006)
Width of rail head	58 mm < I	59 mm < I < 62 mm	63 mm < I < 66 mm	67 mm < I < 71 mm	72 < I < 76 mm	
Rail profile						
Vignole	30 E1 36 E1 36 E2	46 E2 or 33 E1 55 E1	45 E3 46 E1 46 E4 JIS50 50 U6 50 E5 52 E1 50 E6A2 JIS60 50 E6A1	50 E4 54 E2 54 E3 54 E1	50 E2 60 E1 R65 60 E1 50 E2T1 A74	-
Grooved rail / Tramway rail	-	-	-	-	-	60R1 / 35G / 55G1 / NP4A / 55G2

## Accessories for shearing

Pandrol offers a complete range of accessories to realise your weldings.

Technical Specification				
Description	Hot Cutter without handle	Risers cutter without handle	Handle for hot and risers cutters	Mallet with fiber handle
Item number	33910001	33910002	39980001	48401109









# 7

## Grinding Equipment

In addition to being ergonomically designed for safe use by the operator, Pandrol's range of grinding equipment is developed to maximise the life of the track across all rail heads and profiles.



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## Mobile grinder

## Alpha Grinder

Pandrol's Alpha Grinder extends the life of the track by grinding the complete profile in one operation, delivering the ergonomic design and precision efficiencies that Pandrol is renowned for.



## ADVANTAGES:

- Faster correction of track abnormalities
- Fuel-efficient 4-stroke engine delivers environmental efficiency
- Light weight with smooth operation
- Can be used to eliminate the corrugation effect

Technical Specification	
Description	Alpha grinder
Item number	AGRIN001
Steps	Head profile grinding
Disc size (not included)	Ø150
Dimensions	1620 x 670 x 910 mm
Energy	Gasoline
Power	5.1 kW at 3600 rpm
Weight	97 kg
Grinding stone (not included)	
Item number	47901011
Rail type	
Vignol	Yes

Note : grinding stone not included



## Light Profile Grinder

### RPLE

The Light Profile Grinder is a precision grinder used to complete the final stages of profile grinding on the rail head after aluminothermic or flash-butt welding. It has been specifically designed to allow very accurate adjustments, so that the whole rail head top can be perfectly restored in a single operation.

#### ADVANTAGES:

- Light weight and compact size make it easy to move and use
- It is safe to use the machine, with an emergency stop button equipped
- Electric Engine makes it environmentally friendly

Technical Specification	
Description	RPLE Light Profile Grinder
Item number	14352007
Steps	Head profile grinding
Disc size (not included)	Ø115
Dimensions	1360 x 455 x 800 mm
Energy	Electrical
Power	2600 W (50 Hz)
Weight	35 kg
Grinding stone (not included)	
Item number	47901006
Rail type	
Vignol	Yes

Note : grinding stone not included



## Rail Cleaner

### DR40

The Rail Cleaner DR40 is used after rail replacement to ensure the rail is rust-free. The cleaning machine brushes the top of the rail head, removing oxidation and ensuring a good friction contact between the railway vehicle wheels and the rail surface.

#### ADVANTAGES:

- Light weight for less operator needed
- Powerful engine and efficient brush design to make it efficient

Technical Specification	
Description	DR40 Rail cleaner
Item number	14391003
Steps	Rust removal on top of the rail after rail replacement
Disc size (not included)	Ø120
Dimensions	1020 x 430 x 600 mm
Energy	Petrol
Power	4.1 kW at 3600 rpm
Weight	41 kg
Brush (not included)	
Item number	47902003
Rail type	
Vignol	Yes

Note : brush not included





## Flexible Shaft Grinder

## MFB-MFR

The MFB Flexible Shaft Grinder on a wheelbarrow frame and the MFR Flexible Shaft Grinder on a track-cart enables the efficient completion of all types of grinding operations. Like all Pandrol grinding equipment, it has been developed to maximise the life of the track across all rail heads and profiles.



## ADVANTAGES:

- Powerful engine makes it ideal for heavy-duty grinding work
- Possible to be used for every kind of maintenance grinding work with its appropriate quick coupling tool
- The integrated clutch prevents the engine breaking down

Technical Specification							
Description	MFB Grinding unit shaft wheelbarrow type and remote control / MFR shaft track-cart type and remote control						
Item number	14321013 / 14321108						
Energy	Petrol						
Rotation speed	4 800 rpm						
Dimensions	950 x 600 x 740 mm						
Weight	57 kg						
Set up							
Steps	Head rail resurfacing and reprofiling			Groove grinding	Shearing	Riser cutting	Polishing
Set up	Profile grinding setup Ø90	Profile grinding setup Ø115	Profile grinding setup Ø150	Basic setup Ø203	Basic setup Ø230	Basic setup Ø230	Basic setup Ø 165
Item part number set up	14343014	14343015	14343016	14344001	14344004	14344004	14344007
Wheel / Disc	Wheel Ø90 x 40 x 50	Wheel Ø115 x 50 x 50	Wheel Ø150 x 40 x 50	Wheel Ø203 x 20 x 18	Wheel Ø230 x 10 x 22.2	Wheel Ø230 x 3.2 x 22.2	Flap wheel Ø 165 x 50
Item part number wheel / disc	47901005	47901006	47901009	47901032	47901021	47901025	47902004
Rail type							
Vignol	Yes						
Grooved - Tramway rails	Yes						
Track rail "I"	Yes						
Crane rail - Burbach	Yes						
MRS	Yes						

## Handheld Grinders

## Wired &amp; Battery-Powered Handheld Grinders

Pandrol's extensive range of wired and battery-powered handheld grinders are designed to support the welder with all track grinding and finishing work.



Technical Specification							
Description	Tangential Straight Grinder Ø175	Battery operated Cup-stone angle Grinder Ø115	Cup-stone angle grinder Ø90	Cup-stone angle grinder Ø108	Cup-stone angle grinder Ø115	Angle Grinder Ø230	Groove Straight grinder Ø203
Item number	14312028	14312024	14312003	14312004	14312003	48402030	14312023
Steps	Rough and Finishing grinding	Finishing grinding	Head profile rough and finishing grinding			Cutting of the aluminothermic risers and deburring	Groove cleaning
Disc size	Ø175	Ø115	Ø90	Ø108	Ø115	Ø230	Ø203
Dimensions	900 x 323 x 311 mm	630 x 120 x 165 mm	580 x 150 x 140 mm			510 x 190 x 140 mm	900 x 323 x 311 mm
Energy	Electrical	Battery	Electrical			Electrical	Electrical
Power	2600 W (50 Hz)	2400 W (50 Hz)	2600 W (50 Hz)			2600 W (50 Hz)	2600 W (50 Hz)
Weight	10 kg	7,5 kg	7 kg			5,6 kg	10,5 kg
Grinding discs and stones (not included)							
Item number	47901037	47901006	47901005	-	47901006	47901021	47901032
Rail type							
Vignol	Yes	Yes	Yes			Yes	-
Grooved rail	-	Except the groove	Except the groove			Except the groove	Only the groove
Tramway rail	-	Except the groove	Except the groove			Except the groove	Only the groove
Guiding rail	-	Yes	Yes			Yes	-
Trail rail "I"	-	Yes	Yes			Yes	-
Crane rail	-	Yes	Yes			Yes	-
MRS	-	Yes	Yes			Yes	-

## Grinding discs and stones



Technical Specification						
Description	Angled cutting disc	Angled cutting disc	Flat disc	Flap wheel	Metallic brush	Tangential wheel
Item number	11335018	47901021	47901025	47902004	47902003	47901037
Dimensions (diam ext/épais)	Ø 230 x 10 mm	Ø 230 x 4 mm	Ø 230 x 3 mm	Ø 165 x 50 mm	Ø 120 mm	Ø 175 x 25 mm
Nut	Bore 22.2 mm	Bore 22.2 mm	Bore 22.2 mm	Bore 15.85 mm	Bore 22.2 mm	Bore 20 mm
Pack quantity	1	1	1	1	1	1
Machine	Angle hand grinder Ø230 (grind) (48402030)	Angle hand grinder Ø230 (cut) (48402030)	MFB / MFR (set up 14344004)	MFB / MFR (set up 14344007) / MFB / MFR (set up 14344004)	DR40 (14391003)	Tangential hand grinder Ø175 (14312028)

Technical Specification					
Description	Grinding stone	Grinding stone	Grinding stone	Grinding stone	Grinding stone with round edge
Item number	47901005	47901006	47901009	47901011	47901032
Dimensions (diam ext/int/thick)	Ø 90 x 40 x 50 mm	Ø 115 x 50 x 50 mm	Ø 150 x 40 x 50 mm	Ø 150 x 72 x 55.2 mm	Ø 203 x 20 x 18 mm
Nut	Bore 15.85 mm	Bore 15.85 mm	Bore 15.85 mm	4 x M8	-
Pack quantity	1	1	1	1	1
Machine	Profile hand grinder Ø90 (14312019)	Profile hand grinder Ø115 (14312018) / RPLE (14352007) / Battery profile hand grinder (14312024)	MFB / MFR (set up 14343016)	Alpha grinder (AGRN001)	Straight Grinder Ø203 (14312023)







# 8

## Trollies

Pandrol offers a range of trollies, which are equipped with a safety break device and designed to ensure easy transportation of tools and equipment on the track, especially on rail maintenance sites.



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## Welders Trolley

## PLO1 / PLO1.5

A simple and light weight trolley 1 ton load capacity with safety locking device.  
1.5 tons loading capacity is specially designed for welding operations on tracks.

## ADVANTAGES:

## PLO1:

- Very useful to transport any kind of material on the track especially on aluminothermic welding site
- Safety manual break device
- Reversible push handle

## PLO1.5:

- Big loading tray to ensure easy transportation of welding equipment's and consumables
- Strong steel frame
- Hot temperatures proof
- Safety manual break device

Technical Specification		
Description	PLO1	PLO1.5
Item number	12111014	12111020
Maximum load	1000 kg	1500 kg
Track gauge	1435 mm	1435 mm
Dimensions	1670 x 850 x 320 mm	1910 x 1090 x 360 mm
Weight	43 kg	70 kg



## Power Carriers

## HP 500

Pandrol's HP transporters are Power Carriers designed to save time and labour on tracks and worksites.

## ADVANTAGES:

- Safe and easy to operate
- Ideal to move heavy items
- Ideal to help reduce work-related injuries
- Robust and efficient

Technical Specification	
Description	HP 500
Item number	TME00005
Engine	HONDA GX160 - 4 stroke single cylinder air-cooled - OHV
Maximum Power	4 kW at 3.600 rpm
Tilt mechanism	Manual
Speed	0 to 4.3 Km/h
Reverse speed	0 to 3.6 Km/h
Fuel tank capacity	3.6 l
Oil tank capacity	0.6 l
Continuous operating hours	2.4 h without refueling





## Power Units

Pandrol has a range of robust power units designed for supplying power to portable electric tools and lightening equipment. For battery operated equipment, spare batteries and chargers are also available.



## Electric Power Unit

# GEE500 / GEE500 B

Pandrol's Electric Power Unit GEE500 is a suitable portable power unit to use all kind of electrical machineries and tools to ensure tracks works.

### ADVANTAGES:

- Safety device
- OHV engine
- Easy to move

Technical Specification		
Description	GEE 500	GEE 500 B
Item number	29411003	19411002
Support	Frame	Wheelbarrow
Dimensions	720 x 560 x 490 mm	1110 x 650 x 750 mm
Weight	56 kg	80 kg
Motor		
Engine	Petrol 4 Stroke	
Power	6.6 kW at 3 600 rpm	
Fuel consumption	313 g/kW.h	
Alternator		
Voltage	230 Volts – 50 Hz single phase	
Power	4 kW – 5 kVA	
Autonomy	3.2 hours	



## Battery accessories



Technical Specification		
Description	Battery LiHD 18V 8,0Ah	Charger high capacity ASC Ultra
Item number	48402027	48402033
Battery pack voltage	18 V	-
Battery pack capacity	8 Ah	-
Battery voltage	-	14.4 - 36 V
Mains frequency	-	50 - 60 Hz
Max. charging current	-	6.5 A
Charging time for 18 V/4.0 Ah	-	37 min
Charging time for 18 V/8.0 Ah	-	74 min
Weight	980 g	1150 g
Compatible with	EMB1 (11334014) / EMB2 (11334015) / HFP 36V / Cup Stone Angle Grinder Ø115 (14312024)	



### ADVANTAGES:

#### Battery LiHD 18V 8,0Ah

- LiHD battery packs for ultimate performance and extremely long application with minimal temperature generation
- Ultra M technology: Intelligent battery management for long-lasting battery packs
- Patented "AIR COOLED" charging technology
- Permanent Electronic Single Cell Protection (ESCP) when charging, for particularly long life
- Processor-controlled charge and discharge management
- Capacity display with almost no self-discharge

#### Charger high capacity ASC Ultra

- Patented "AIR COOLED" charging technology: battery pack cooling during charging for significantly reduced charging times
- High charging current for fast charging of the battery packs
- Very low stand-by input power
- Processor-controlled charging management for gentle charging and maximum number of charging cycles



# 10

## Services and Maintenance

Pandrol helps increase your equipment and rail longevity. With specific welding training for your teams, equipment services and optimised maintenance solutions, we guarantee a longer railway lifetime and safer traffic.



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## Track Control Solutions

Evolution of railway traffic, increasingly shorter maintenance times, prioritization of safety; now is the time to move towards predictive maintenance!

Pandrol have partnered with customers for over 30 years, specialising in Track Control Solutions for railways infrastructures. We provide a full range of solutions, and digital tools – from manual to motorized equipment for ultrasonic testing, geometry of the track, overhead line, structure clearance, etc.



## Condition Monitoring

Pandrol has developed a range of sensing technology that enables quick and extremely cost-effective remote condition and fault monitoring of key assets in the railway.

Built around the innovative Multi-Sensor product, the Measure and Detect system can be used to monitor a range of rail infrastructure conditions including wheel flats, bogie hunting, stress free temperature, core rail temperature, rail and bridge strain, and ground disturbance.



## Pandrol Training Academy

Our dedicated welding training centres both in Raismes, France and Worskop, UK, offer world-class expertise, with dedicated training areas and digital training tools. We support specialists with a comprehensive training package including: aluminothermic welding, arc welding repair, and JIC safety training.

The Pandrol Training Academies work closely with railway operators to ensure that the Academy delivers fully accredited training for each country. The Raismes centre is SNCF accredited, EN 14730-2 and Qualiopi compliant. It has recently been validated and recognized by the Deutsche Bahn and Swiss Federal Railways (CFF), the UK centre is approved by Network Rail.



## After-sales

Pandrol After-sales service supports you during the entire lifespan of your Pandrol products, helping to maximize their efficiency and longevity in the field.

We provide on-track services as required, as well as delivering spare parts to support the repair of your equipment.

Additionally, our on-site after-sales service includes diagnosis, refurbishment and calibration by factory trained and certified technicians to make your equipment last longer.





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# Partners in excellence

Contact your local team to discuss your requirements

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