

WINNARD



PRODUCT BROCHURE

WINNARD

PRODUCT RANGE

Winnard are the U.K.'s leading after-market supplier of commercial vehicle brake discs and brake Drums, with a proven original equipment manufacturing heritage.

Winnard, established in 1850 by Thomas Winnard, has earned the reputation for supplying quality braking products to both the original equipment and after-market.

This reputation has been built on strong engineering foundations, along with a customer focused sense of product and market integrity.

Our growing product range includes ECE R90 approved brake pads , brake discs, brake linings, new un-lined brake shoes and lined wheel end kits as well as associated parts including ABS rings and fitting kits.

In 2016 we introduced hubs and complete wheel end hubkits.

Our extensive range of products cover hundreds of vehicle makes and models from around the world.

**Winnard,
braking with tradition**



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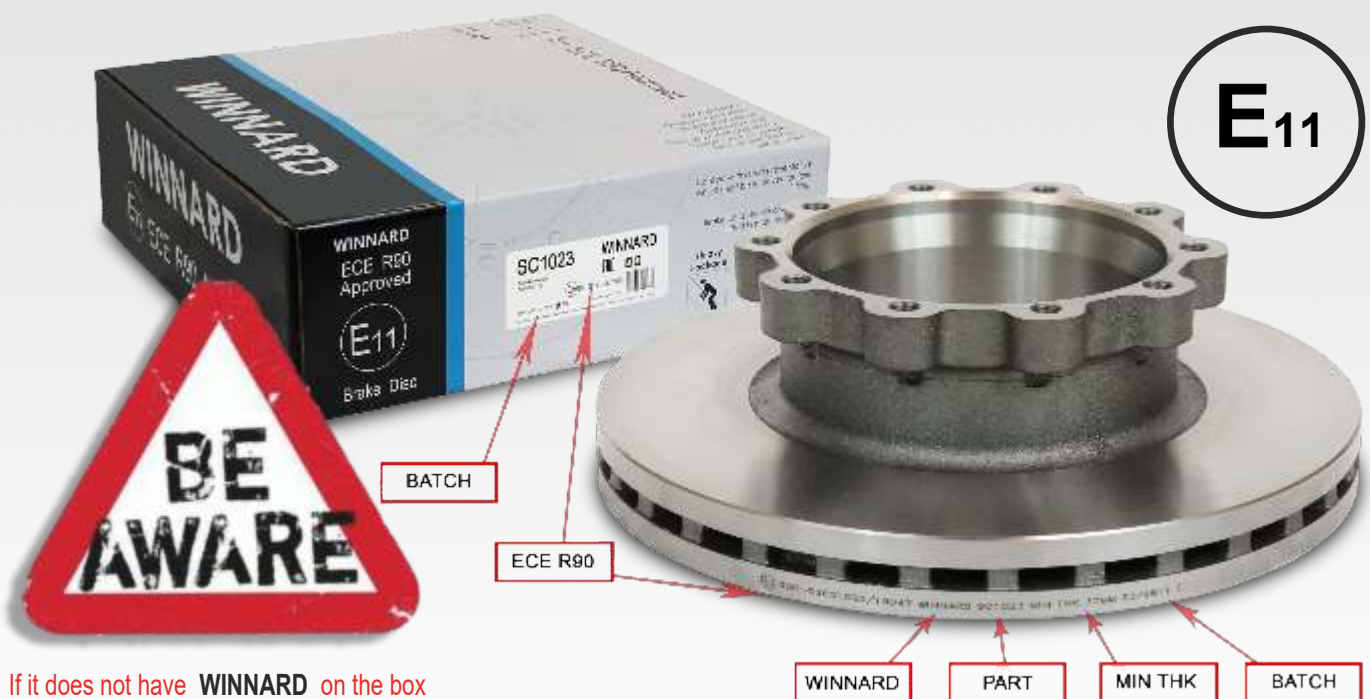
(ECE R90 Approved)

With over 350 references covering 98% of the commercial vehicle market, Winnard have one the largest ranges of commercial vehicle brake discs in Europe.

All Winnard brake discs are manufactured to our specification by ISO TS16949 accredited factories. Our original equipment approved quality systems and procedures ensure that our brake discs meet the exacting standards required by today's modern vehicles and will perform to similar levels as an original equipment part.

In order to respond quickly to customer requirements, we carry large levels of stock. With over 60,000 brake discs available, Winnard is one of Europe's largest stockists.

- Range covers 98% of commercial vehicle applications
- Many references ECE R90 E11 approved
- References cover; Industrial, P.S.V., C.V., and Light Commercial Vehicles.
- Original Equipment approved quality system
- Constant analysis to ensure dimensional conformity
- Design enhancements to improve performance and operational longevity



If it does not have **WINNARD** on the box
then it is not **WINNARD** in the box.

ECE R90

What is ECE R90

ECE R90 is a European standard which ensures that brake pads and more recently brake discs manufactured for the after-market comply with R90 standards.

In order to meet these standards the brake disc are put through a series of tests and must perform to similar levels as the original equipment part. However, before these test can take place the governing body has to audit the production facilities and asses the quality control procedures to ensure that they meet the stringent standards required to be approved under the ECE R90 regulation. Our facilities have been inspected and passed by the VCA. (<http://www.dft.gov.uk/vca/>) The standard contains 4 different groups:

- (a) Original replacement brake disc
- (b) Identical brake disc
- (c) Equivalent disc
- (d) Interchangeable disc

Winnard brake discs are classed as (d) "Interchangeable".

The ECE R90 Definition "Interchangeable brake disc" is a replacement brake disc which has the same interface dimensions as the original part but may differ from the original brake disc in terms of its design, material composition and mechanical properties.

Interchangeable brake discs have to pass the following tests: Dynamometer located at the M.I.R.A. testing facility

Geometric check - The critical dimensions are measured to ensure the brake disc conforms to the tolerances required to provide a safe and effective brake.

Material check - The chemical composition, microstructure and hardness are analysed to ensure they meet the required specification.

Balancing provisions check - The balance of the disc is checked and compared to the original equipment part.

Wear condition marking - Wear markings and minimum thickness specifications are checked and compared to the original equipment part.

Integrity tests- The discs are then tested using a dynamometer to compare the discs performance against the original equipment part. These tests include a thermal fatigue integrity test and a high load service brake performance test. The thermal fatigue test puts the disc through such a punishing braking cycle that the disc will eventually crack. The objective is to last as long as the original equipment part. So far test results have shown that our discs are out performing the original equipment part by as much as 15%.



Brake disc under going thermal fatigue test



BRAKE DISC DEVELOPMENT

Braking Evolution

We are continuously looking at ways of improving the performance and longevity of our brake discs. ECE R90 testing has shown that the brake disc venting design and disc face thickness have a direct effect on the disc's thermal resistance properties. Therefore, when developing new parts we always look at ways of improving on the original specification.

A new development for 2017 is a change to the design of built in cast ABS teeth. We know from market experience that, despite rust preventative coatings, cast ABS teeth, located on the base of the brake disc, do suffer from corrosion and can cause ABS sensor faults. This problem will usually result in premature replacement of the brake disc. Therefore, we are replacing this old technology and upgrading our discs to have a separate KTL* coated steel ABS ring.

Benefits of KTL* coated

1. Improved corrosion
2. ABS ring can be replaced.
3. Reduces downtime.
4. Saves time and money.

This upgrade will be available for certain references, details will be posted on our web site as references

*The Electrophoretic Coating (e-coat) process is widely used in the automotive and other industries for corrosion protection as it offers the ability to deposit a uniform coating over an entire component including those with bends, cavities or areas which would be hard to coat with a conventional powder coat or liquid spray painting process.

This process is also known as Electrocoating, Electropainting, E Coating, Electrophoretic Deposition (EPD), KTL, E coat, EP coating, Cathodic Dip Painting (CDP) and Electrodeposition.



BRAKE PADS

WINNARD

Tomorrow's technology today

Our ECE R90 approved brake pads are designed to provide maximum performance and operational life. They are constructed using a steel peel, triple retention system. This system ensures that the material can be relied upon even in the harshest environments.

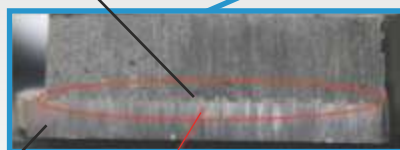
Produced using European formulations with original equipment approved quality systems and procedures, the Winnard range of disc brake pads are engineered to exacting standards, providing performance, integrity and operational longevity.

Winnard brake pads have been developed to work in harmony with our brake discs and will provide the optimum friction couple.

All Winnard brake pads are ECE R90 approved, most supplied with fitting kits.



Grid Mesh Retention System



Fully bonded, shear strength in excess of 5.0 Mpa

O.E. Thickness back plates

Maximum resistance to bend and flex.

Reduces hot spotting and provides full pad face to disc contact



Bedding-in Coating
Performance from first fit



BRAKE PADS

WINNARD

Friction Material Technology

The Winnard range of disc brake pads are available in two main formulations:



Standard Premium - SF811

SF811 has been developed to suit a wide range of standard duty CV applications, including most trailer and truck / tractor units. The material has experienced significant success within the market, building a good reputation based on its premium quality, performance and wear, outperforming many of its competitors.

Braking Feature	Target	Demand	BEST IN CLASS	Winnard Stage 2	Winnard Standard
Green performance	75-110%	95-110%	87	106	88
Speed Sensitivity 110 km/h	80-100%	90-100%	95	92	91
Speed Sensitivity 120 km/h	75-100%	85-100%	102	75	84
Temperature sensitivity 300 Degrees C	75-110%	80-110%	101	87	91
Temperature sensitivity 350 Degrees C	75-100%	75-100%	98	98	85
Fading properties 1st Fade	-25% of g	-27% of g	30	25	28
Fading properties 2nd Fade	-25% of g	-27% of g	32	21	27
Hot efficiency step 1	-40% of g	-50% of g	50	45	45
Hot efficiency step 2	-40% of g	-50% of g	58	46	53
Performance at end of test	-75%	-65%	97	106	92



Stage 2 Heavy Duty - SF8288

Stage 2 Material is a severe duty formula ideally suited for CV, truck/tractor and city bus applications where repeated stop/start operation is required. The material has a strong resistance to wear and good modulation making it particularly suited for bus operation. It is particularly effective at high temperatures where it continues to deliver strong performance after many competitor products fade away.

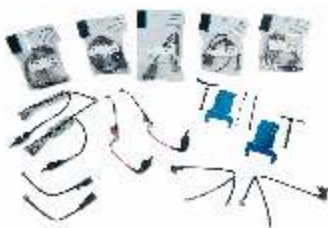


Copper Free Materials are also available.

Wear Leads, ABS Rings & Fitting Kits

To support our extensive range of Brake pads we also have a comprehensive range of wear leads & fitting kits for both brake pads & brake discs.

Further information is available at www.winnard.co.uk



BRAKE DRUMS

Thos. Winnard & Sons Ltd have been manufacturing commercial vehicle brake drums since the 1930's and have produced for both original equipment axle and vehicle manufacturers.

Our stock holding exceeds 50,000 units and is the largest in UK and probably Europe. Through continuous range development and with over 2000 references recorded on our bespoke database, we are able to cover over 99% of the UK. vehicle park.

Our continuous batch testing, comprehensive range and extensive stock holding positions us as the number one supplier of brake drums for Bus, Industrial, Truck and Trailer applications in the U.K.

Not all Brake Drums are the same.

Without specialised measuring equipment and detailed material analysis, it is impossible to ascertain the quality of any brake drum supplied. Even with this equipment you still require the technical knowledge and engineering experience to interpret the information. All Winnard brake drums are manufactured to our specifications and controlled through our stringent quality control procedures built upon our 85 years of manufacturing heritage.

- Over 80 years of dedicate brake drum manufacturing
- Largest range of C.V. brake drums in the U.K.
- Total quality control - ISO approved quality control systems



You cannot judge product conformity by appearances alone.

The correct dimensional characteristics are critical to ensure safe operation.

*You can count on **WINNARD** to supply you safe effective braking products.*

WINNARD - Over 85 years of dedicated brake drum manufacture

BRAKE SHOES, LININGS & LINED KITS

We stringently control the manufacture of our steel brake shoes, using materials that conform to both German specifications, DIN St52-3 (for the web material) and DIN Fe360B (for the table material).

Weld detail: Carbon Dioxide Gas Arc Welding guarantees strength, no cracked or weakened welds and no distortion of the shoe webs.

Cam and anchor detail: Induction hardened cam and anchor for long term durability and life. Hardness up to HRC35-45 ensures no wear to the pin recess, preventing lateral movement.

Shoe platform detail: No corrosion or distortion to the shoe platform provides optimum lining security and geometricity, which helps to reduce brake noise.

Rivet hole detail: No damage, elongation or ovality of the rivet hole, reducing the risk of loose rivets due to bad fitting.

Cast Iron Shoes

Our cast brake shoes are manufactured from BS2789 / 10 material, painted and coated with anti-rust preventative.

Brake Linings

We offer multiple formulations most are ECE R90 approved.

All materials are asbestos-free with metallic inclusions and friction modifiers.

Lined Shoe

In addition to our range of Cast and Steel Brake Shoes we also have available a range of Lined "Wheel End" kits for the popular trailer applications.



HUBS

Hubs for the DAF , Renault, Scania & Volvo*

Manufactured and controlled through our stringent engineering procedures, this growing range of quality wheel hubs are made from ductile cast iron and represent excellent value for money, providing a viable alternative to using reconditioned units.

If required original equipment quality bearings can be pressed in.

Other references are being developed, check our web site for further information.



FAG

FAG bearings can be pressed in if required.

See the Winnard web site for the latest applications.

*Manufacturers Part Numbers & Names are used for reference purposes only and does not imply that their parts will be supplied

WHEEL END HUB KITS

Full wheel end Hubkits for DAF, Scania & Volvo*

With the introduction of our new hub range, we are also able to offer a complete wheel end kit for the DAF, Scania and Volvo range of vehicles.

These kits are made up of the following parts:

Brand New Hub - New FAG Bearing - New Wheel Studs
Brake Disc options - New ABS Ring



Supplied complete and ready to Fit

All hubs and Hubkits are fitted with FAG bearings **FAG**

See the Winnard web site for the latest applications.

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The Winnard web site

The Winnard web site contains the latest product information and prices.

Our online catalogue reduces the amount of time you spend searching for and ordering parts your business needs. Use our improved online catalogue to: quickly lookup product cross-references, identify parts for specific vehicles or match them through our dimension search option.

Once you've found the parts you need we'll recommend related parts that you may be interested in, whilst showing you live-updating stock levels, all before allowing you to place and confirm your order safely and securely.

Mobile App

Our online catalogue is also available as an App so whether you're in the office or on the go, you can always find the required parts to fit specific vehicles or that match your unique dimension requirements. Our App is available now on a range of devices.

