

Our engine parts get things moving globally

Aftermarket

— years of experience around the globe
» [more](#)

Original Equipment

Safety and experience in serial production
» [more](#)

NPR of Europe GmbH is a subsidiary of the Japanese engine parts manufacturer NPR – Nippon Piston Ring Co. Ltd..

- ✓ Competent advice and development
- ✓ product quality and
- ✓ reliable logistics

set us apart as an original equipment manufacturer for many well-known engine manufacturers in Europe.

Our piston ring sets are being used successfully across the globe in all categories of engines – be it small two-stroke engines or large lorry diesel engines.

With over 30 years' experience in the fields of original equipment manufacturer, as well as the aftermarket, you can rely on us as a dependable and competent partner in automotive industry.

SecurityCheck



» [Check your piston rings](#)

New design for NPR



1 April 2008 saw the launch of NPR's new design

» [more](#)

News

Exhibitions 2012

» [more](#)

German Packaging Award for NPR's security packaging

» [more](#)

REFERENCES

» Manufacturers

» Aftermarket

» Motorsport

A selection of our business partners

Piston and engine manufacturers customers (OEM)



Audi

MAHLE

Driven by performance

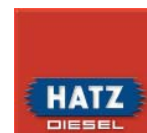
**KOLBENSCHMIDT
PIERBURG**



Das Auto.



- BMW AG
- Daimler AG
- Smart (Daimler AG)
- Deutz AG
- DUCATI Motor Deutschland GmbH
- Federal-Mogul Corporation (Nürail)
- KTM-Sportmotorcycle AG
- MAHLE GmbH
- Mercedes-AMG GmbH
- Motorenfabrik HATZ GmbH & Co.KG
- RENAULT s.a.s.
- Triumph Motorcycles Limited
- Yamaha Motor Deutschland GmbH (MBK)
- VW
- Volvo
- Ford
- Fiat
- Alfa Romeo
- Kolbenschmidt Pierburg AG
- Ferrari
- Maserati
- Toyota



Feel the difference



Piston rings – keep going round and always on the move



Piston rings are an important element of piston cylinders typology systems. They fulfill manifold and important tasks:

- ✓ gas seal of the combustion chamber
- ✓ regulation of the oil film at the cylinder surface
- ✓ heat removal from the piston to the cylinder
- ✓ minimization of wear and tear of piston, cylinder and piston rings

In the process of continuous development of the combustion engine the thermic and mechanical stress on the parts grow while the dimensions shrink. The resulting demanding requirements have to be met with innovative technologies.

The development led from simple cast iron rings via steel rings on to coatings which reduce wear and tear.

Aftermarket - decades of experience around the globe



Our aftermarket division supplies customers around the globe – be it with piston ring sets, tuning assemblies or bearing shells. We are continually striving to expand our product range. Please refer to our latest news section for updates.

Our service department sets itself apart by our extremely knowledgeable staff and the very high availability of supplies. Thanks to optimal warehousing and years of experience nearly all products are deliverable within just a few days.

We use unforgeable packaging for our piston ring sets so that our customers can rely on the high quality of our products. This packaging received the “German Packaging Award” and the “WorldStar” packaging award in 2006.

Bearings - continue success of OE in Aftermarket



We provide slide bearings made in a wide range of materials which cover the whole range of uses.

Our main focus is on binary or triple fuel bearings, unleaded storage materials as well as the optimization of friction performance.

NPR of Europe GmbH is OE-supplier to many well-known engine manufacturers. This successful relationship started in 1998 with us being supplier for the bearings of the ACTROS series 500.

The AM product range is enlarged in 2008 by bearings for Japanese engines. Bearings for European engines complement in 2010 the bearing program in AM.

Ring sets - for every kind of combustion engine



Over the last few years great efforts have been made to reduce CO₂ emissions by reducing fuel consumption in petrol engines. The following developments have taken place:

- ✓ reduced friction through the use of the ideal combination of piston rings
- ✓ axially thin compression and oil rings
- ✓ surface treatment (increased lifespan)
- ✓ optimisation of cross sections

Automotive engines

In this area high speeds and a long lifespan are the most important factors.

For the first ring as well as for the two-piece oil control ring steel is being used and nitridation and PVD can be applied.

Medium-sized and larger engines (3- or 4-piece ring sets)

Higher performance with controlled emissions are the main criteria for these types of engine. For the first (and possibly the second) ring trapeze rings are being used which prevent the ring from getting stuck. In addition PVD coatings are also being applied.

The use of steel rings leads to a width and weight reduction.

PVD piston rings: long life – high fuel economy

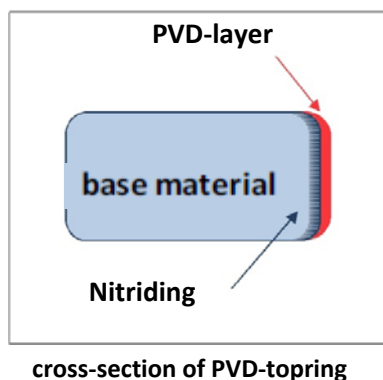
Constant advances in combustion engines put increasing thermal and mechanical stress on components while its dimensions simultaneously decrease.

The resulting exacting demands have to be met with innovative technologies.

The development led from simple cast iron rings via steel rings on to coatings which reduce wear and friction.

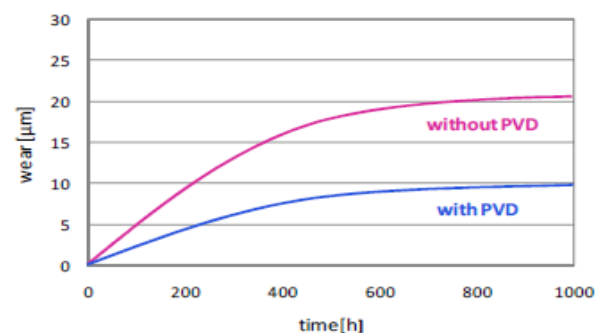


Many years ago Nippon Piston Ring started developing wear-resistant PVD coatings. PVD stands for “physical vapour deposition”, a vacuum-based coating process where layers of hardening components are directly deposited onto the surface of the piston ring. The PVD coatings are notable because of their high wear-resistance. This is achieved by a high hardness (1400-2200 Hv) and an extremely compact layer structure. A further advantage is the very smooth surface which results in considerable friction benefits.



Nowadays PVD rings are used successfully for numerous applications. They are being used in commercial vehicles which have a required mileage of more than 1 million miles and modern highly stressed automobile diesel engines.

PVD technology is increasingly being used in conventional petrol engines. It's high wear-resistance maintains the ring shape over a longer period of time. For Instance this allows areduction of the ring tension of PVD coated oil control rings which in turn results in considerable friction benefits.



Wear rate curve in bench test

Based on the innovative PVD technology of NPR of Europe can offer low friction and highly wear-resistan piston rings. In this way NPR of Europe contributes greatly towards more economical and durable engines !

Ringsets – for certain original



We used unforgeable packaging for our piston ring sets so that our customers can rely on the high quality of our products. This packaging received the „German Packaging award“ and the „WorldStar – Packaging Award“ in 2008.



[log in](#) [register](#) [help](#) [supported handsets](#) [big in Japan](#)

[Home](#)

[Get Reader](#)

[Sample Codes](#)

[Create Codes](#)

Create smart codes

Decide what you want to encode

You can encode either a link to a website, a message to a friend, or your contact details. Then turn the information into a smartcode, one that can be printed on stationery, advertising or packaging, or built into a website - and read by an i-nigma enabled mobile.

Create your smartcode

Select what kind of code you want to create (QR Code or Data Matrix), then type in the web address (URL) or text you want to encode, and watch the smartcode being created, instantly. When you're finished, give it a title, and then scan, print or save it for personal, non-commercial use.

Select

☒ Website link ☐ Encoded message ☐ Contact details

Web address

customer of npr

Title (optional)

Code type

Size

Medium

☐ QR Code

☒ Data Matrix

Embed

``



Right click on the smartcode to save it to your computer.