

# ENGINE EXPERTISE

## INNOVATIONS & TECHNOLOGIES

**Payen**  
**CORIOUSEAL**

**GOETZE**  
**LKZ-Ring**

**CARBONGLIDE**  
**GDC**

**AE**  
**SODIUM FILLED VALVES**

**GLYCO**  
**LEAD-FREE TECHNOLOGY**

**IROX**

**Niiral**  
**ECOTOUGH**

**DuraBowl**

# OUTSTANDING DRIV™ TECHNOLOGY



## CORIU SEAL™

### Optimum sealing performance

#### Technology highlights

- Welded stopper for improved fatigue resistance
- Conforms to most surface finishes on rebuilt engines
- Enhanced initial gas sealing on start-up
- Easily disassembled

#### POPULAR APPLICATION

- **Part number** AF5402 / AC5032  
**OE** 038103383DG / 0209X7, 9635967380  
Audi A3, A4, A6 1.9 TDI / VW Golf V, Passat, Transporter 1.9TDI / Citroën Berlingo, Jumper 2.0 HDI / Peugeot 307, 807, Partner 2.0 HDI



# OUTSTANDING DRiV™ TECHNOLOGY

**Niiral**  
FITTED WITH  GOETZE RINGS

## DuraBowl®

### Longer piston life circle

#### Features & benefits

- DRiV™ OE technology
- Re-melted combustion bowl strengthening design
- Endures temperatures > 400°C and cylinder pressure between 200 – 250 bar
- Increases piston life by several times under severe operating conditions
- Applicable if fitted as Original Equipment

#### POPULAR APPLICATION

- **Part number** 87-427400-20 / 87-427400-30  
**OE** A6420307617 / A6420307717  
Mercedes-Benz E/S/CLS350CDI



# OUTSTANDING DRiV™ TECHNOLOGY

## ECOTOUGH

Reduced friction, wear and fuel consumption

### Features & benefits

- DRiV™ OE technology
- Solid lubricant coating containing carbon fibre and graphite
- Up to 18% piston friction loss reduction
- 0.2 – 0.8% advantage in fuel consumption
- Up to 40% less wear
- Reduction in CO<sub>2</sub> emissions

### POPULAR APPLICATIONS

- |               |  |
|---------------|--|
| • Part number | 87-436900-00   |
| OE            | 036 107 065 EQ<br>VW Polo, Golf 1.4 MPI 59-63kW 2005 |
| • Part number | 87-434600-00   |
| OE            | 11257640166<br>BMW 1,3,5 series x20i, x28i 2011      |

**Niiral**  
FITTED WITH  GOETZE RINGS



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# OUTSTANDING DRiV™ TECHNOLOGY

## ECOTOUGH™ NG NEW GENERATION COATING

**Nirral**<sup>®</sup>  
FITTED WITH  GOETZE<sup>®</sup> RINGS

### Features & benefits

- DRiV™ OE technology
- Improves fatigue strength
- Increases fuel efficiency
- Up to 15% piston friction loss reduction
- Up to 40% less skirt wear
- Reduction in CO<sub>2</sub> emissions

### POPULAR APPLICATIONS

- **Part number** 87-450900-00  
**OE** 46336793  
FIAT - GSE-T3 / GSE-T4 (Firefly)
- **Part number** 87-450500-00  
**OE** 55267588  
FIAT - Multijet II 1.3 JTD Euro 6





# OUTSTANDING DRiV™ TECHNOLOGY



## Improving the strength against wear

### Features & benefits

- DRiV™ OE technology
- Ultra-fine diamond particle embedded chromium coating
- Improving the strength against wear & scuff resistance compared with conventional chromium coatings
- Increased service intervals  
Self-lubrication under stress
- Consistently good sealing

### POPULAR APPLICATION

- **Part number** 08-447500-00  
**OE** 04L198151  
All VW Audi Group 2.0 TDI EA288 2014 onwards



# OUTSTANDING DRiV™ TECHNOLOGY

## ***CARBOGLIDE***

**Increases fuel economy**

### Technology highlights

- DRiV™ OE technology optimized for highly rated gasoline engines
- Unique multi-layered surface contains tungsten and hydrogenated carbon mid layer with amorphous diamond-like carbon (DLC) top layer.
- 2-3 times the coating thickness of conventional DLC coatings
- Low coefficient of friction than other ring coatings for gasoline engines (nitride, PVD coatings)
- CARBOGLIDE provides very low friction in combination with high wear resistance and superior scuff resistance

### POPULAR APPLICATION

- **Part number** 08-437400-00  
**OE** 55571045  
Opel Insignia, Astra, Zafira 1.4L Turbo 103kW



# OUTSTANDING DRiV™ TECHNOLOGY



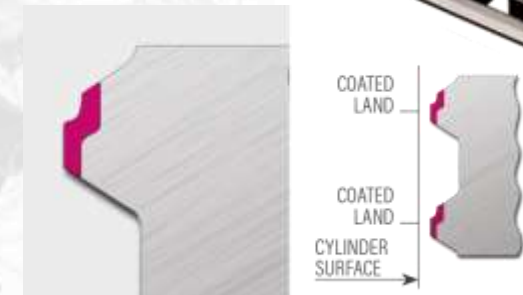
**Up to 50% less oil consumption and 15% less friction**

## Technology highlights

- The DRiV™ piston ring range includes more than 60 Goetze LKZ® references.
- LKZ® oil rings unique stepped design provides consistent low oil consumption over the life of engine by reducing carbon build-up on critical parts of the piston.
- Now adopted by the variety of European OE Manufacturers as superior solution for reduced oil consumption and frictional losses.
- Goetze LKZ® rings are an excellent solution to return an OEM LKZ® equipped engine back to original performance.

## POPULAR APPLICATION

- **Part number** 08-446100-00  
**OE** 11257811793  
BMW F10 530d, F30 330d



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# OUTSTANDING DRIV™ TECHNOLOGY



## IROX®

### Outstanding long life circle

#### Technology highlights

- Increases bearing shells and crankshaft life
- Reduces CO<sub>2</sub> emission and improves fuel economy
- Cuts friction up to 50% compared to metallic sliding layers
- Suitable for start-stop engines

#### POPULAR APPLICATIONS

- **Part number** H1328/5 STD  
**OE** 03L 105561, 03L 105591, 03N 105561A, 03N 105591A  
Audi Q5 2.0 TDI, VW transporter 2.0 TDI, Seat Leon 2.0 TDI, VW Golf VII 2.0 TDI
- **Part number** 71-5006/4  
**OE** 23611-2F400, 23612-2F000  
Hyundai Tucson 2.0L Diesel Turbo
- **Part number** 71-5007/4  
**OE** 23611-2F100, 23611-2F500  
Hyundai Santa Fe 2.2L Diesel



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Irox



Irox 2

# OUTSTANDING DRiV™ TECHNOLOGY



## LEAD-FREE TECHNOLOGY

### Environmentally-friendly engine solutions

#### Technology highlights

- Comprehensive range of new lead-free bearing materials
- PACE award for supplier innovation
- 18 patents granted globally



# OUTSTANDING DRiV™ TECHNOLOGY



## SODIUM-FILLED HOLLOW VALVES

### Even distribution of heat

#### Technology highlights

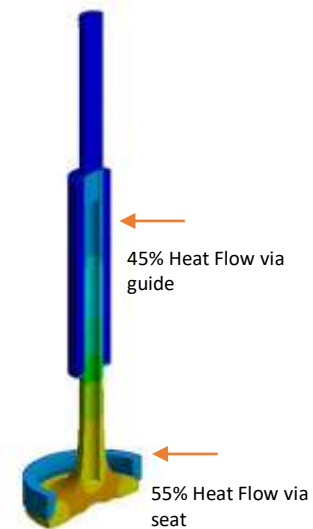
- Temperature reduction in the under head region between 80°C to 150°C
- Weight reduction by up to 16% is achieved
- Heat dissipation reduced from the seat and transferred through the guide by 20%.

#### POPULAR SODIUM-FILLED APPLICATIONS

AE Valves	OE	Application
V80003	11347570164	BMW 4.4 V8 550i (F07 F10) 650i (F12 F13) 2007 onwards N63 B44A / B
V80005	2710501127	Mercedes-Benz 1.8 C/E CLASS (W204 W212 C204) M 271 2007 onwards
V80011	03C109611Q	Volkswagen Passat 1.4 TSI Ecofuel Euro 5 2009 onwards
V80021	9807645980	Citroen / Peugeot / Opel 1.2 THP 130 EB2DTS 2014 onwards



Solid Valve



Sodium-filled hollow Valve

