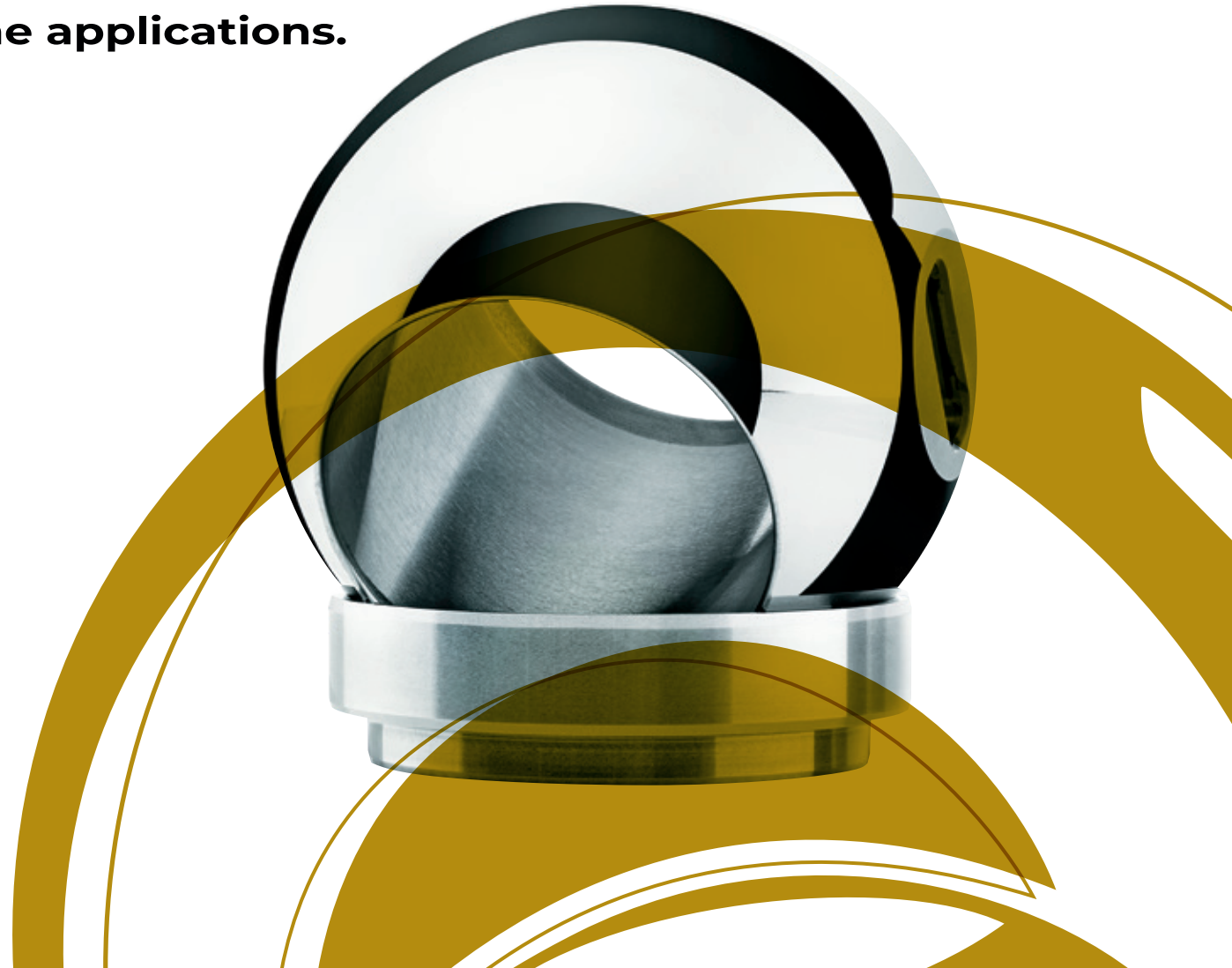


» CARBIDE AND COATINGS

# **PUMPS VALVES COMPRESSORS**

**Solutions—  
especially for extreme applications.**

**DURIT**





## HARDFACTS

### » DURIT HARTMETALL

- » **SINCE 1982**  
Successful and solution-oriented
- » **OVER 500 EMPLOYEES**  
Worldwide
- » **MORE THAN 60 CARBIDE GRADES**  
For wear protection and metal forming
- » **100% COATING EXPERTISE**  
HVOF, APS, EAWS,  
Laser Cladding, PVD and CVD



## » CARBIDE TECHNOLOGY

Parts, tools and components made of cemented carbide are **the ultimate in wear resistance and longevity** and **ensure utmost versatility**. DURIT carbide solutions stand up to the toughest demands.

### » DEDICATED TO CARBIDE

**Carbide from a single source**—from blanks to high-precision final products. DURIT produces **customized parts** and realizes **individual shapes** as well as **complex geometries**.

### » WE OFFER FULL-SERVICE CARBIDE





## » WEAR PROTECTION FOR PUMPS, VALVES AND COMPRESSORS

Especially in pump, valve and compressor construction, parts and components made of cemented carbide create added value. The same applies to sealing technology. The reason for this: In production areas where things get extreme, the use of cemented carbide is much more **efficient against premature wear**— and **optimizes the production**.

### » WE SOLVE WEAR PROBLEMS

Valves, pumps and fittings are often exposed to abrasive media such as quartz, sand, salt or other extreme conditions. For applications in which **corrosion protection** is important, DURIT offers a range of successful carbide grades with chrome/nickel binders. Special **grades of carbide** significantly **increase the service lives** of the respective components.

### » WITHSTANDS MOST EXTREME DEMANDS



### Products ::

valve seats · valve cones · valve balls ·  
mechanical seal faces · bearing sleeves ·  
dosing needles · pistons · shaft sleeves ·  
plain bearings · stationary and rotary rings ·  
naves · thrust bearing rings · impeller shafts

### Typical applications ::

flow control and shut-off valves · pumps ·  
sealing elements

## Selection of application-specific carbide grades ::

GRADE	Composition	Binder (%)	Grain size	Hardness (HV30)	Fracture toughness (MPa·m <sup>1/2</sup> )
GD08F	WC-Co	8,00	submicron	1625	10
GD13F	WC-Co	10,00	submicron	1540	12
GD10	WC-Co	6,00	medium	1600	10
GD20	WC-Co	10,00	medium	1350	15
GD30	WC-Co	15,00	medium	1150	15,5
GD10N	WC-Ni	7,00	fine	1530	10
GD20N	WC-Ni	9,00	fine	1400	10
GD08NC	WC-Ni/Cr	8,80	submicron	1670	9
GD10NC	WC-Ni/Cr	6,80	fine	1630	11,5
GD14NC	WC-Co/Ni/Cr	7,60	fine	1650	9,5



# » COATING TECHNOLOGY

DURIT coatings **distinctly increase resistance** of tools, components and parts. Our experts realize **high-tech solutions** that stand out through highly specific properties.

## » MORE EFFECTIVE AGAINST WEAR

In addition to solid cemented carbide, advanced coatings achieve optimized results, especially on large-volume parts. **Thermal spray coatings, laser cladding** and **PVD coatings** perfect various high-precision components. In many cases DURIT coatings are the perfect choice to **increase productivity**.

## » TARGETED IMPROVEMENT OF PRODUCTIVITY



» HVOF WC/Co

## LASER CLADDING

### » Alloys

Weldable powders (carbides, metals)—comparable with Stellite, Triballoy, Colmoly, Hastalloy, Inconel or similar

## HVOF

High Velocity Oxygen Fuel

### » Carbides

WC/Co

WC/Co-Cr

WC/Ni

WC/NiCrBSiFe

Cr<sub>2</sub>C<sub>3</sub>/NiCr

## APS

Atmospheric Plasma Spraying

### » Ceramics

Al<sub>2</sub>O<sub>3</sub>

TiO<sub>2</sub>

Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub>

Cr<sub>2</sub>O<sub>3</sub>

Cr<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub>

ZrO<sub>2</sub>/MgO

ZrO<sub>2</sub>/Y<sub>2</sub>O<sub>3</sub>

## EAWS

Electric Arc Wire Spraying

### » Metals

Cu

Mo

NiCr

NiCrMo

NiCrAlY

## PVD

Physical Vapour Deposition PVD represents protection, optimization and refinement—for targeted efficiency

MegaTiN®

DiExtra®

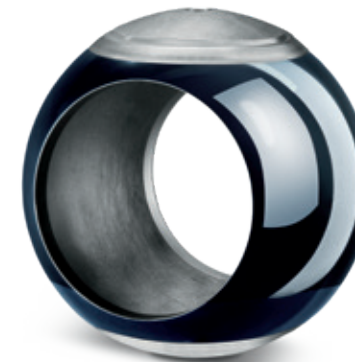
DiaPlus®

HardSilk®

HardTribo®

UltraImpact EXCELL®

HardTiL®



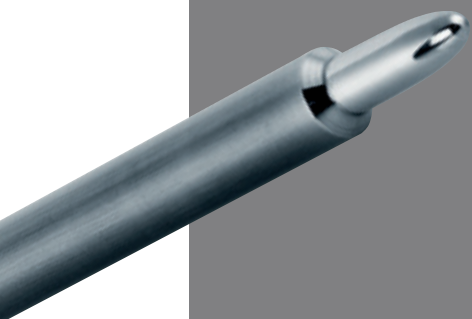
» APS TiO<sub>2</sub>



» PVD UltraImpact EXCELL®



» APS Bimetallic



» **DURIT HARTMETALL GMBH**

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**takes you to EXTREMES**

