

» CARBIDE AND COATINGS

# **SHEET METAL AND METAL PACKAGING**

**Highest precision. Dimensional stability.**

**DURIT**  
HARTMETALL



## » 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

## 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



» [durit.com](http://durit.com)



## Products ::

cut rings · cut punches · hold-down rings · center blocks · draw rings · flanging rollers · button inserts · sizing punches · slit knives · necking rings · seaming segments · deep-drawing dies and punches · flanging punches · wall-iron dies · blank holders

## Typical applications ::

packing · can and lid production · punching and forming technology

## » WEAR-RESISTANT TOOLS AND COMPONENTS

The excellent properties of cemented carbide tools are evident—especially in punching, cutting, flanging, drawing and calibrating processes. The applied components meet the **highest requirements in precision and dimensional stability**. Cemented carbide **increases the profitability** of machines and systems by a multiple.

### » WE SOLVE WEAR PROBLEMS

Sheet metal packaging, cans, lids or transformer sheets are typical areas in which **DURIT is successful**. The **individual high-tech solutions** have been tried and tested for years: They solve challenges in daily practice and **minimize wear**—in the **long term**.

### » WITHSTANDS MOST EXTREME DEMANDS



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**Selection of application-specific carbide grades ::**

<b>GRADE</b>	<b>Composition</b>	<b>Binder (%)</b>	<b>Grain size</b>	<b>Hardness (HV30)</b>	<b>Fracture toughness (MPa·m<sup>1/2</sup>)</b>
GD13F	WC-Co	10,00	submicron	1540	12
GD16F	WC-Co	13,00	submicron	1390	13
GD18F	WC-Co	15,00	submicron	1285	14
GD20	WC-Co	10,00	medium	1350	15
GD25E	WC-Co/Cr	15,60	submicron	1370	15
GD30	WC-Co	15,00	medium	1150	15,5
GD40	WC-Co	18,00	medium	1025	16

# » COATING TECHNOLOGY

Coatings by DURIT make tools and components for special applications significantly **more resistant**. Our experts realize **high-tech solutions** that are characterized by special properties.

## » MORE EFFECTIVE AGAINST WEAR

In some areas of application refinement of cemented carbide tools with modern coatings can realize further optimization. In this way, **PVD** and **CVD coatings** provide the perfect finishing for high-precision components. DURIT coatings are in many cases the best method to **increase productivity**.

## » TARGETED IMPROVEMENT OF PRODUCTIVITY



» PVD DiExtraUltra®



» PVD UltraImpact EXCELL®



» CVD TiC/TiN



» PVD D-Mold®

## PVD

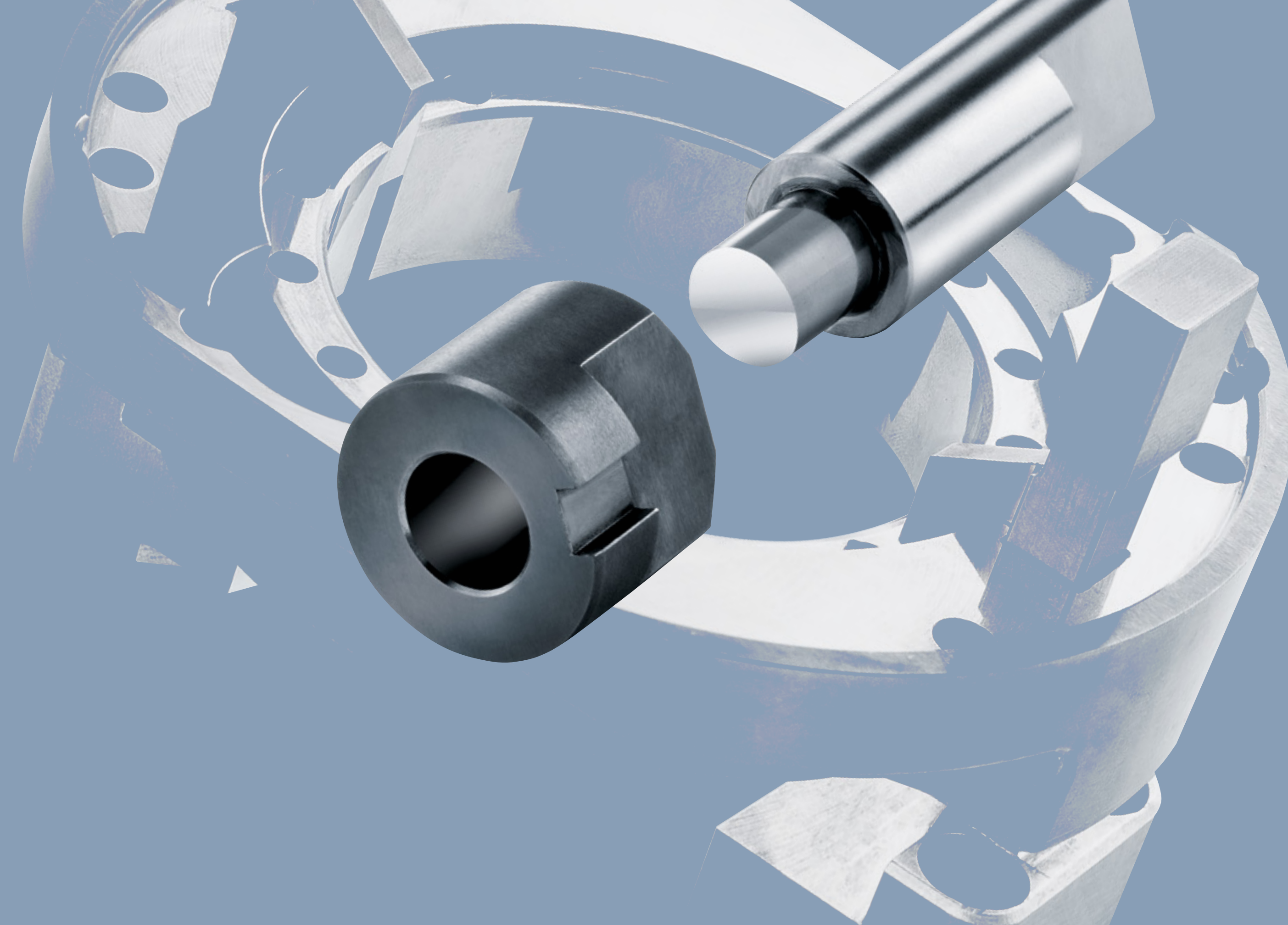
**Physical Vapour Deposition**  
PVD represents protection, optimization and refinement—for targeted efficiency



## CVD

**Chemical Vapour Deposition**  
CVD represents good sliding properties, a low coefficient of friction and high hardness





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**takes you to EXTREMES**    