



026/04/22

WEAR PARTS CATALOGUE



SINCE 1916



PALBIT = Tooling Solutions Experts

NEW

Palbit was founded in 1916 and we are producers of hard metal and ultra hard materials tools. Symbol of high performance tools. More than 100 years of experience enable us to be a one stop shop for complete tooling solutions.

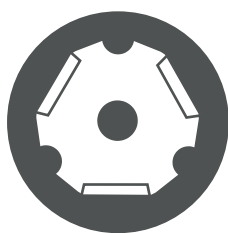
Daily selling worldwide through a network of distributors, agents and representation offices, with a team of highly qualified technicians.

The use of high technology, allows us to respond to the highest level of client's requirements.

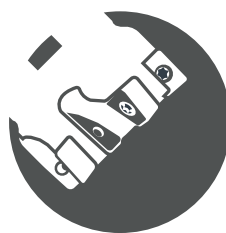
With a very modern plant using the latest state-of-the-art technology able to respond to the highest level of client's requirements.



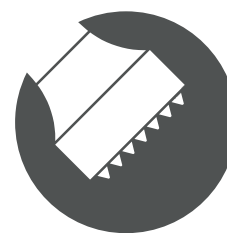
BUSINESS AREAS



WEAR PARTS



CUTTING TOOLS



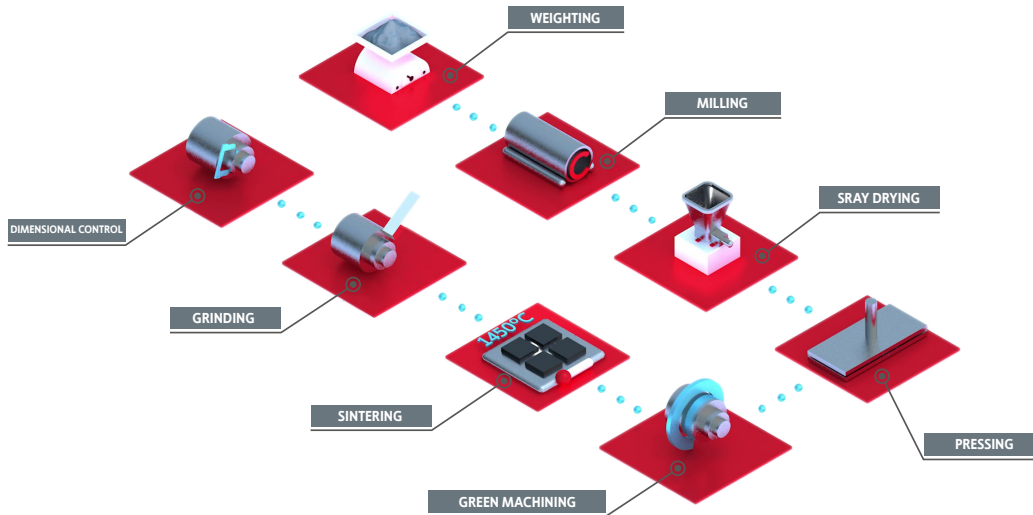
ROCK TOOLS

PALBIT = Tooling Solutions Experts

NEW

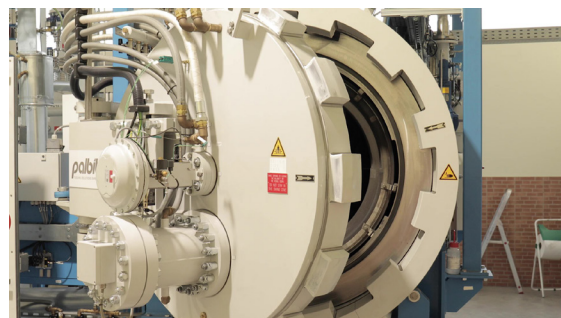
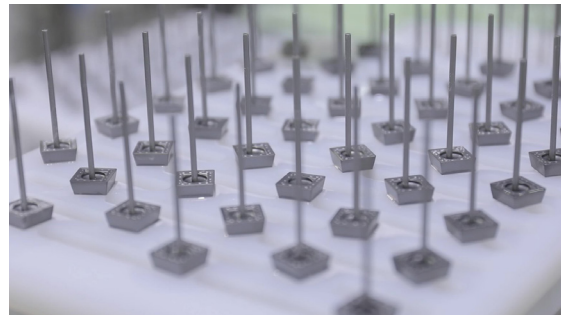
MANUFACTURING

Palbit relies on the quality of our raw materials, technology available and the experience of our skilled technicians to attend to our customer's high-level requirements and performance.



INNOVATION

Our investments in cutting-edge technology allied to our continuous research and product development allow us to constantly improve our productivity and the quality of our products.



CERTIFICATES



Certificate of Quality Management System



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

APCER has issued an IQNet recognized certificate that the organization **PALBIT, S.A.**

Rua das Tílias, Palhal - Branca
3850-582 ALBERGARIA-A-VELHA - PORTUGAL

has implemented and maintains a **Quality Management System**

for the following scope:

Conception, production and commercialization of products and tools in hard materials, ultra-hard materials and steel

which fulfills the requirements of the following standard

ISO 9001:2015

Issued on: 2018-07-03

Expires on: 2021-07-07

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Registration Number: PT- 1994/CEP.166



Alex Stoichita
Alex Stoichita
President of IQNet

Jose Leitão
Jose Leitão
APCER CEO



IQNet Partners:
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IQNet is represented in the USA by: APNOR Certification, CIBQ, DQS Holding GmbH and NSAI Inc.
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

Certificate of Research, Development and Innovation Management



Certificado
Certificate

NÚMERO 2013/IDI.0077
Number

O Sistema de Gestão da Investigação, Desenvolvimento e Inovação da
The Research, Development and Innovation Management System of

PALBIT, S.A.
Rua das Tílias, Palhal - Branca
3850-582 ALBERGARIA-A-VELHA
PORTUGAL

implementado na investigação, desenvolvimento e inovação na conceção e fabricação de produtos e ferramentas em materiais duros, ultra-duros e aço,
implemented in the research, development and innovation in the conception and production of products and tools in hard materials, ultra-hard and steel, meets the requirements of the standard

NP 4457:2007

IRAC
Associação Portuguesa de Certificação
RUA DE BESSA LESTE, 1430 - 1º ESQ.
4150-974 PORTO
www.apcermgp.com

Jose Leitão
Jose Leitão
CEO

Emitido em 2019-07-10
Date of issue
Válido até 2022-09-29
Valid until

CARBIDE GRADES: TECHNICAL DATA

NEW

Identification			Properties			
ISO Field	Palbit Grade	Comments of application	Binder (%)	Grain	Hardness (HV10)	TRS (N/mm ²)
K10-K30	PH0321	Broad range of applications	7	Medium	1570	2300
K30-K45	PH0341	Broad range of applications	10	Medium	1420	2530
K05-K15	PH0705	High wear resistance without shock	5,5	Fine	1700	2590
K25-K35	PH0706	Applications with minimum shock level	6,8	Medium	1530	2760
K30-K45	PH0708	Special anti-corrosive applications with binding Ni	Ni=8,2	Medium	1410	2070
K35-K45	PH0710	Cold extrusion and applications with reduced shock levels	10	Medium	1385	3100
K45-K55 (G30)	PH0715	Stamping and medium shock levels	15	Medium	1160	3270
K50-K60 (G40-G50)	PH0720	Stamping and medium-high shock levels	20	Medium	1000	3300
K55-K65 (G50-G60)	PH0725	Applications with high shock levels	25,5	Medium	910	3330
K35-K45 (B20)	PH0809	High resistance to compression, abrasion and shock. For mining and shaping applications	9	Coarse	1260	2875
K40-K50 (G25)	PH0810	High resistance to compression, abrasion and shock. For mining and shaping applications	10	Coarse	1210	2930
K01-K10	PH0905	High wear resistance	5	Submicron	1900	2585
K10-K20	PH0910	High wear resistance	7	Submicron	1730	3280
K20-K35	PH0920	High wear resistance	10	Submicron	1585	3400
K30-K40	PH0930	High wear resistance	11,5	Submicron	1480	3500

Note: Special grades are available under request

PRODUCTION CAPABILITIES



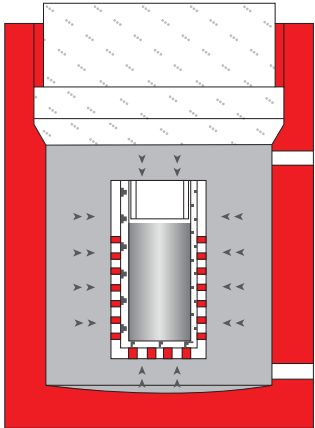
In order to guarantee the highest quality of our products, Palbit has the entire production process implemented in our own facility, from grade preparation to the shipment of the finished products.

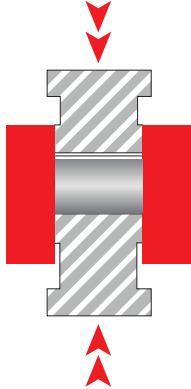
GRADE PREPARATION

A good grade selection is mandatory to obtain a high-quality product, able to perform under demanding environments. For that reason, at Palbit, we perform our own grade preparation, relying on raw materials of the highest quality.

PRESSING

At Palbit we rely on two types of powder pressing methods: Isostatic and Uniaxial.

Cold Isostatic Press (CIP)	
	Improved density and homogeneity in the piece
	Minimum deformation during sintering process
	Better shaping capacity
	Reduced dimension variability of raw pieces
	Allows green stage machining
	Allows the production of larger parts
	Smaller series

Uniaxial Pressing	
Higher productivity	
Near final shape production	
Lower levels of machining	
Bigger quantities	
Automation	
Direct pressing option	

GREEN STAGE MACHINING

In some cases, especially after an isostatic pressing, it's required a green stage machining to obtain a near final shape before sintering, reducing the grinding procedures required after sintering. This green stage machining consists of cutting, milling and/or turning processes.

PRODUCTION CAPABILITIES

NEW

SINTERING

Palbit uses HIP sintering technology (Hot Isostatic Press), in which subjects the tungsten carbide parts to high levels of temperature and pressure.

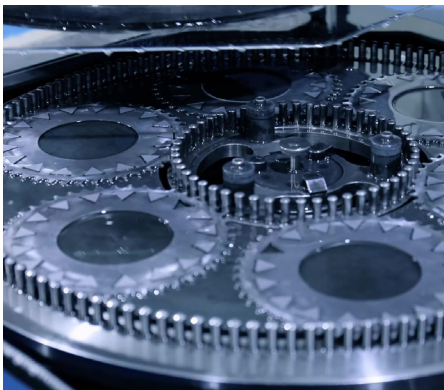
This technology has several advantages, for example:

- Minimal porosity;
- Improved mechanical properties;
- Allows a better grinding finish;
- Higher compression resistance;
- Improved TRS;
- More reliable grades;
- Longer tool lifespan;

FINISHING

To guarantee a good surface finish to its products Palbit has an extensive range of machinery, allowing to us comply with a tolerance in the range of 2 microns. For this reason, Palbit relies on various types of grinding procedures, both CNC and conventional. For more elaborate designs, Palbit resorts to EDM machining, that being EDM sinking or wire erosion. If a smoother surface is required, at Palbit a polishing procedure is also possible.

Grinding



EDM Machining



Polishing

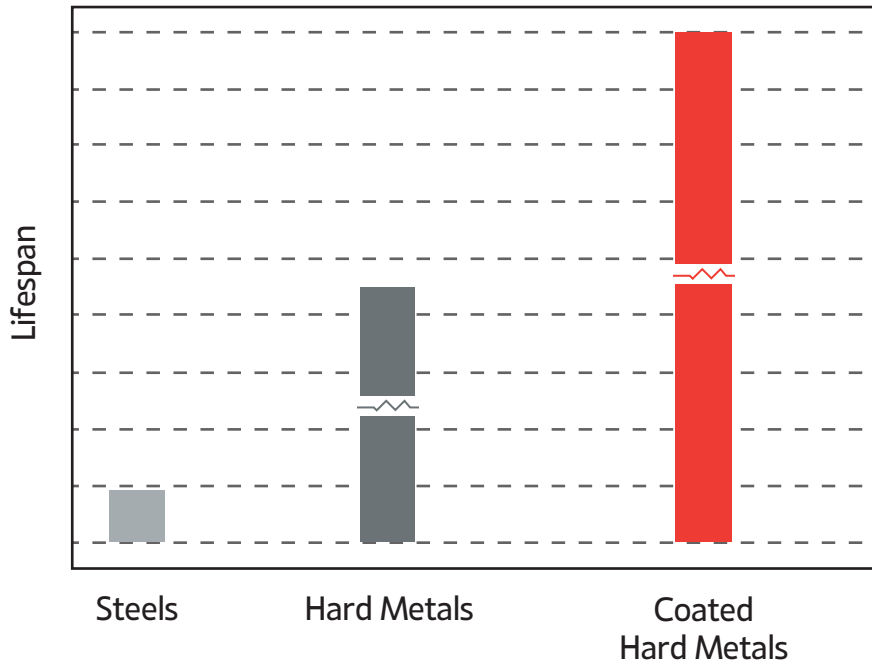


PRODUCTION CAPABILITIES

NEW

COATING

Tungsten carbide parts are considerably more wear resistant than steels, however, sometimes an additional wear resistance is required. In those occasions a coating can be applied, by CVD or PVD.



JOINING TECHNIQUES

Sometimes, an item produced entirely of tungsten carbide is not necessary, and for that reason, we apply tungsten carbide only on the working area, where the wear is considerably higher. To produce this type of products, that result from a combination of steel and carbide we resort to brazing, gluing and also embedding.

If necessary, we also have the resources to incorporate PCD and PCBN in our products.

BLANKS

Parts with none or a low level of grinding that require additional grinding procedures to reach the final shape.



PARTS

- Blades
- Bushes
- Compaction dies
- Die cores
- Drawing dies
- Guiding elements
- Mandrels
- Nozzles
- Punches
- Rings
- Rolls

GENERAL ENGINEERING

Wide range of parts which are used in various types of industries.



PARTS

- Blades
- Bushes
- Dies
- Guiding elements
- Nozzles
- Punches
- Rings
- Sleeves

CUTTING TOOLS

Parts with a sharp and durable cutting edge, very good surface finish and high wear resistance. These parts are used in various types of industries.



PARTS

- Blades
- Cutting strips
- Inserts
- Knives
- Shear parts

COLD FORMING TOOLS

Parts that require a high wear and pressure resistance.
These parts are used in various types of industries.



PARTS

- Blades
- Dies
- Mandrels
- Punches
- Rolls

DRAWING TOOLS

Parts with a great surface finishing and a high wear resistance.

These parts are used in various types of industries.



PARTS

- Calibration plugs
- Drawing dies
- Drawing jaws
- Floating plugs
- Guiding elements
- Nibs
- Welded plugs

STAMPING TOOLS

Parts that require a great wear and pressure resistance.



PARTS

- Deep drawing die
- Grooving punches
- Knives
- Pressing die
- Stamping dies
- Stamping punches

BLASTING TECHNOLOGY

Parts exposed to highly abrasive materials, requiring high wear and corrosion resistance.

These parts are used in various types of industries.

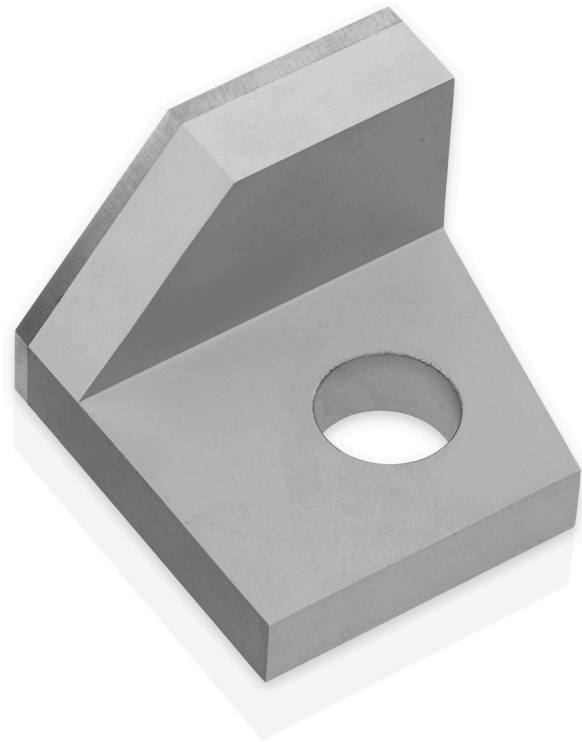


PARTS

- Panting nozzles
- Sandblast nozzles
- Special type nozzles
- Wear plates

SIZE REDUCTION TECHNOLOGY

Parts that require a high wear and impact resistance. They also need a high fracture toughness.



PARTS

- Crusher jaws
- Impact mill inserts
- Inserts
- Knives
- Milling pins

FLOW CONTROL

Parts that are subjected to high friction and pressure, requiring high wear and corrosion resistance.

These parts are used in various types of industries.



PARTS

- Bushes
- Pistons
- Rings
- Sleeves
- Valve components

SPECIAL PARTS

Various parts produced according to customer drawings.



PARTS

- Brazing inserts
- Burners for all applications
- Cutting blades for various industries
- Inserts for cutting tools
- Parts for moving machinery
- Rectangles for cutting, deformation and wear

INDUSTRIES SERVED

NEW

Agricultural



Automotive



Ceramic



Cigarette



Compaction tooling



Drawn wire



Electronic



Fastening



Food



General engineering



Petrochemical



Pharmaceutic



Plastic



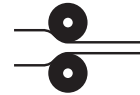
Pulp & Paper



Recycling



Rolling mills



Textile



Wood



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AKKERMANS INDUSTRIAL ENGINEERING B.V.

Vijfhuizenberg 103A • 4708AJ Roosendaal (Province of North-Brabant) • T +31 (0)165 - 224140
The Netherlands • info@aie-export.com • www.aie-export.com
BRN 20040320 • VAT no. 005358012B01 • IBAN NL33 RABO 0141 2525 10 • BIC RABONL2U