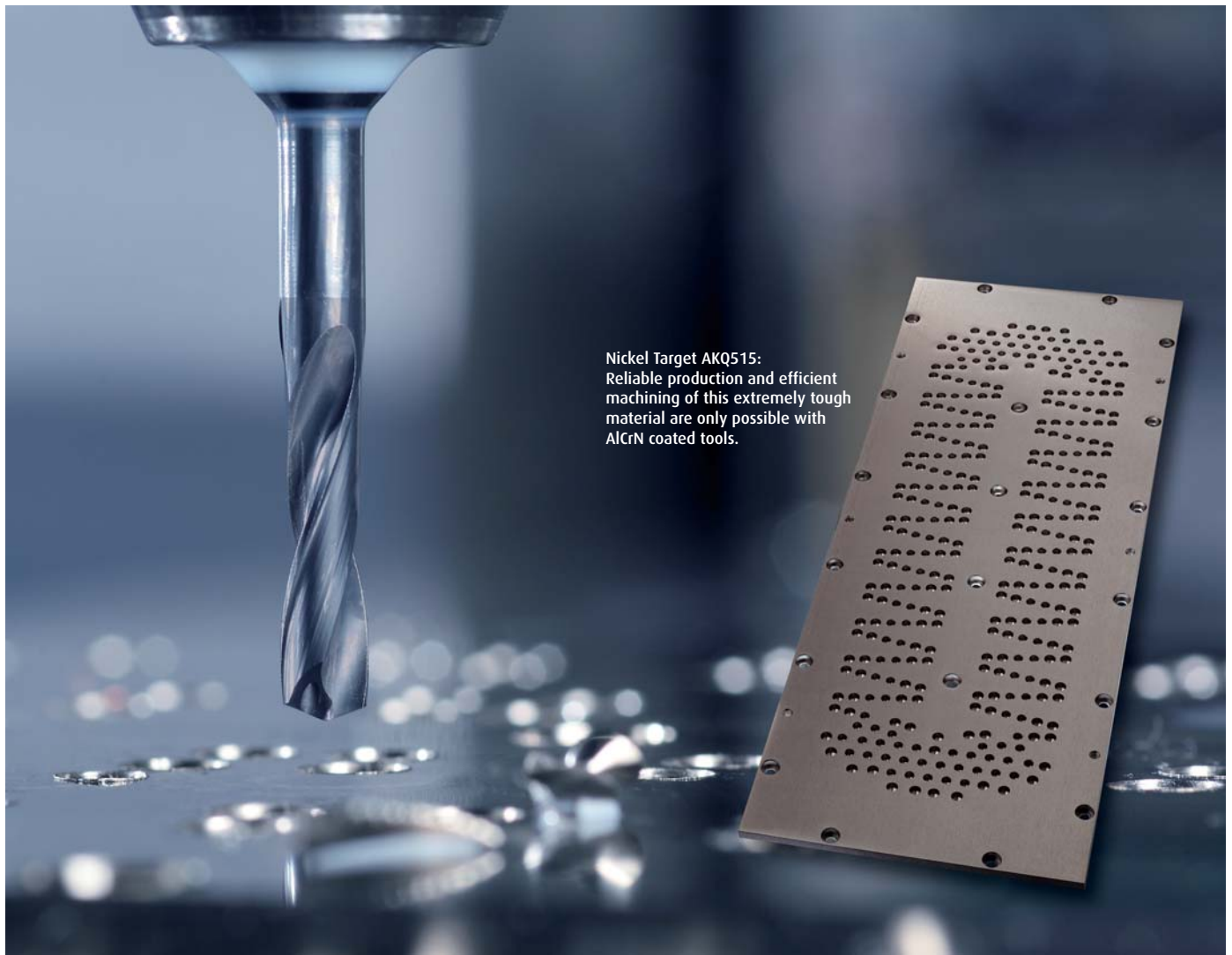


# Sputtering Targets and Evaporation Materials for Wear Protection



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Nickel Target AKQ515:  
Reliable production and efficient  
machining of this extremely tough  
material are only possible with  
AlCrN coated tools.

## About Materials for Wear Protection

Uncoated tools can no longer live up to tough new standards. Today, all state-of-the-art tools need specialized coatings to extend tool life and fulfill the demanding needs of the application.

### Raising the bar

The requirements for every precision tool and mould continue to grow to satisfy ever higher goals like:

- › Improved productivity
- › Longer tool life
- › Reliable production
- › Reduced cycle times

### Specialized coatings for today's tools

Nowadays, most tool coatings are applied by the PVD-Arc process. This process gives the best ratio between layer growth rate (10 times higher than magnetron sputtering) and surface smoothness. The layers comprise of highly sophisticated layer structures made from many different types of materials.

With PVD-coated tools, remarkable improvements of performance are possible compared to uncoated tools. They not only permit a tool life which is several times longer than that of uncoated tools, but also, in many cases, a drastic rise of machining parameters.

Umicore Thin Film Products (TFP) provides the coating materials needed in the manufacturing of cutting, punching, forming and moulding tools.

### Umicore – A world leader in materials technology

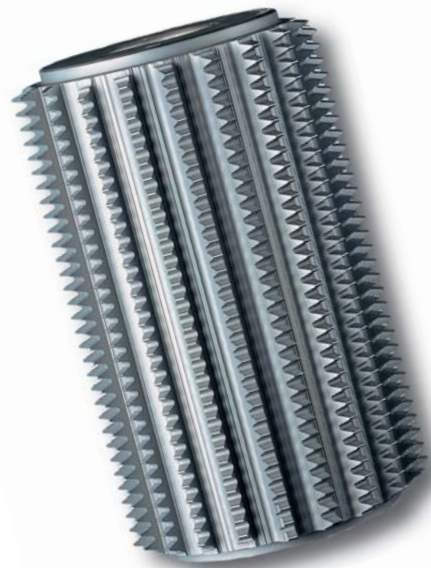
Umicore is a materials technology group. Its activities are centred on four business areas: Advanced Materials, Precious Metals Products and Catalysts, Precious Metals Services and Zinc Specialties. Each business area is divided into market-focused business units.

Umicore focuses on application areas where it knows its expertise in materials science, chemistry and metallurgy can make a real difference, be it in products that are essential to everyday life or those at the cutting edge of new technological developments. Umicore's overriding goal of sustainable value creation is based on this ambition to develop, produce and recycle materials in a way that fulfils its mission: **materials for a better life.**

### Umicore Thin Film Products

Umicore TFP is a globally active business unit within the Umicore group and one of the leading producers of coating materials for physical vapour deposition (PVD) with more than 50 years of experience in this field.

Umicore TFP offers high quality coating materials for all current coating processes and applications with a product portfolio covering a wide range of highly effective evaporation materials, sputtering targets and accessories.



AlCrN coated gear cutter

# Overview Sputtering Targets

Our sputtering targets are suitable for a wide range of cathodes in a various number of PVD sputtering systems.

System	Type	Dimension mm	Ti Grade 2	TiAl 50/50	TiAl 33/67	TiAl 67/33	TiAl 30/70	TiAl 25/75	TiAl 40/60	AlCr 70/30	Cr 99.8%	Zr 99.2%	WC 99.5%	B,C 99.5%	Nb 99.7%
Oerlikon	BAI1200	Ø 160 x 12	●	●	●					●	●	●			
	RCS	Ø 160 x 12	●	●	●					●	●	●			
	Innova	Ø 160 x 12	●	●	●					●	●	●			
Leybold	PK500S	6 x 87.5 x 488	●	●	●						●	●			●
Platit	PL50	24 x 174 x 331	●	●	●					●	●	●			
	PL70	20 x 174 x 448	●	●	●					●	●	●			
	PL200	28 x 174 x 288	●	●	●					●	●	●			
	PL1000	18 x 154 x 754	●	●	●					●	●	●			
MultiArc	M10/US	Ø 63.5 x 32	●	●	●		●				●	●			
	M10/US	Ø 63 x 32	●	●	●		●				●	●			
Kobe		Ø 105/100 x 16	●	●	●					●					

Other targets in accordance with customers' specifications are available on request.



TiAl sputtering target



### Coating Equipment INNOVA

INNOVA from Oerlikon Balzers, a new-generation coating system. It can deposit not only proven high performance nitride coatings but now – for the first time – hard aluminum oxide coatings as well.

## Sputtering Targets



### Targets OC Oerlikon Balzers BAI 1200, RCS, Innova

Description	Material	Purity	Form	Package Size	Part Number
AlCr	70/30 at%	99.5%	Ø 160 x 12 mm monoblock	8 pcs	0700659
TiAl	50/50 at%	99.5%	Ø 160 x 12 mm monoblock	1 pce	0483492
TiAl	33/67 at%	99.5%	Ø 160 x 12 mm monoblock	8 pcs	0485120
Titanium	Ti	Grade 2	Ø 160 x 12 mm monoblock	8 pcs	0483357
Chromium	Cr	99.8%	Ø 160 x 12 mm monoblock	1 pce	0704215
Zirconium	Zr	99.2%	Ø 160 x 12 mm monoblock	1 pce	0701134



### Targets Multi-Arc Ø 63 (M10)

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	Ø 63 x 32 mm monoblock	8 pcs	0706070
TiAl	33/67 at%	99.5%	Ø 63 x 32 mm monoblock	8 pcs	0483181
TiAl	67/33 at%	99.5%	Ø 63 x 32 mm monoblock	8 pcs	0483179
Titanium	Ti	Grade 2	Ø 63 x 32 mm monoblock	8 pcs	0701839
Chromium	Cr	99.8%	Ø 63 x 32 mm monoblock	8 pcs	0701840
Zirconium	Zr	99.2%	Ø 63 x 32 mm monoblock	1 pce	0483383

### Targets Multi-Arc Ø 63.5 (M10)

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0483177
TiAl	33/67 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0706071
TiAl	67/33 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0706072
Titanium	Ti	Grade 2	Ø 63.5 x 32 mm monoblock	8 pcs	0483386
Chromium	Cr	99.8%	Ø 63.5 x 32 mm monoblock	8 pcs	0483387
Zirconium	Zr	99.2%	Ø 63.5 x 32 mm monoblock	1 pce	0706066

### Targets Multi-Arc US Ø 63 (UNF 3/8"-24)

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	Ø 63 x 32 mm monoblock	8 pcs	0483184
TiAl	33/67 at%	99.5%	Ø 63 x 32 mm monoblock	8 pcs	0706067
TiAl	67/33 at%	99.5%	Ø 63 x 32 mm monoblock	8 pcs	0706068
Titanium	Ti	Grade 2	Ø 63 x 32 mm monoblock	8 pcs	0483182
Chromium	Cr	99.8%	Ø 63 x 32 mm monoblock	8 pcs	0706069
Zirconium	Zr	99.2%	Ø 63 x 32 mm monoblock	1 pce	0700867

### Targets Multi-Arc US Ø 63.5 (UNF 3/8"-24)

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0706063
TiAl	33/67 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0483185
TiAl	67/33 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0483148
TiAl	30/70 at%	99.5%	Ø 63.5 x 32 mm monoblock	8 pcs	0485184
Titanium	Ti	Grade 2	Ø 63.5 x 32 mm monoblock	8 pcs	0706064
Chromium	Cr	99.8%	Ø 63.5 x 32 mm monoblock	8 pcs	0706065
Zirconium	Zr	99.2%	Ø 63.5 x 32 mm monoblock	1 pce	0706062



### Targets Platit

PL50

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	24 x 174 x 331 mm monoblock	1 pce	0703882
TiAl	33/67 at%	99.5%	24 x 174 x 331 mm monoblock	1 pce	0703885
Titanium	Ti	Grade 2	24 x 174 x 331 mm monoblock	1 pce	0703863
Chromium	Cr	99.8%	24 x 174 x 331 mm monoblock	1 pce	0703866
Zirconium	Zr	99.2%	24 x 174 x 331 mm monoblock	1 pce	0703876

### Targets Platit

PL70

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	20 x 174 x 448 mm monoblock	1 pce	0706226
TiAl	33/67 at%	99.5%	20 x 174 x 448 mm monoblock	1 pce	0706227
Titanium	Ti	Grade 2	20 x 174 x 448 mm monoblock	1 pce	0706229
Chromium	Cr	99.8%	20 x 174 x 448 mm monoblock	1 pce	0706224
Zirconium	Zr	99.2%	20 x 174 x 448 mm monoblock	1 pce	0706225

### Targets Platit

PL200

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	28 x 174 x 404 mm monoblock	1 pce	0706058
TiAl	33/67 at%	99.5%	28 x 174 x 404 mm monoblock	1 pce	0706059
Titanium	Ti	Grade 2	28 x 174 x 404 mm monoblock	1 pce	0704776
Chromium	Cr	99.8%	28 x 174 x 404 mm monoblock	1 pce	0704775
Zirconium	Zr	99.2%	28 x 174 x 404 mm monoblock	1 pce	0704786

### Targets Platit

PL1000/1001

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	18 x 154 x 754 mm monoblock	1 pce	0703884
TiAl	33/67 at%	99.5%	18 x 154 x 754 mm monoblock	1 pce	0703887
Titanium	Ti	Grade 2	18 x 154 x 754 mm monoblock	1 pce	0702790
Chromium	Cr	99.8%	18 x 154 x 754 mm monoblock	1 pce	0703868
Zirconium	Zr	99.2%	18 x 154 x 754 mm monoblock	1 pce	0703878



### Sputtering Targets Leybold PK500S

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	6 x 87.5 x 488 mm monoblock	1 pce	0702784
Titanium	Ti	Grade 2	6 x 87.5 x 488 mm monoblock	1 pce	0702156
Chromium	Cr	99.8%	6 x 87.5 x 488 mm monoblock	1 pce	0706733
Zirconium	Zr	99.2%	6 x 87.5 x 488 mm monoblock	1 pce	0703275
Niobium	Nb	99.7%	6 x 87.5 x 488 mm monoblock	1 pce	0702683



### Targets Kobe

Description	Material	Purity	Form	Package Size	Part Number
TiAl	50/50 at%	99.5%	Ø 105 x 16 mm monoblock	1 pce	0700110
TiAl	33/67 at%	99.5%	Ø 105 x 16 mm monoblock	1 pce	0700111
Titanium	Ti	Grade 2	Ø 105 x 16 mm monoblock	1 pce	0700007

Mo, W, WC, B,C, Nb and other materials on request.  
Other target types like Hauzer, Vergason, PVT available.

## Evaporation Materials



### Evaporation Materials Tablets

Description	Material	Purity	Form	Package Size	Part Number
Chromium	Cr	99.6%	Ø 30 x 5 mm	5 pcs	0481705
Chromium	Cr	99.6%	Ø 30 x 5 mm	20 pcs	0481706
Chromium	Cr	99.6%	Ø 21 x 5 mm	10 pcs	0481605
Titanium	Ti	Grade 2	Ø 21 x 3 mm	100 pcs	0481747
Titanium	Ti	Grade 2	Ø 23 x 5 mm (hexagonal)	100 pcs	0481623
Titanium	Ti	Grade 2	Ø 33 x 5 mm (hexagonal)	10 pcs	0481745
Titanium	Ti	Grade 2	Ø 33 x 5 mm (hexagonal)	100 pcs	0481748



### Evaporation Materials Slugs

Description	Material	Purity	Form	Package Size	Part Number
Titanium	Ti	Grade 2	Ø 40.5 x 17 mm	10 pcs	0481639
Titanium	Ti	Grade 2	Ø 40.5 x 17 mm	100 pcs	0481643



### Evaporation Materials Rods

Description	Material	Purity	Form	Package Size	Part Number
Aluminium	Al	99.98%	Ø 2 x 15 mm	0.5 kg	0481774
Aluminium	Al	99.98%	Ø 2 x 15 mm	3 kg	0481772
Aluminium	Al	99.98%	Ø 2 x 15 mm	5 kg	0481771
Aluminium	Al	99.98%	Ø 6 x 13 mm	1 kg	0481946
Aluminium	Al	99.98%	Ø 6 x 13 mm	5 kg	0481947

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