

# HERRAMIENTA PARA TORNEADO Y FRESADO

## 1. Cuchillas en Acero Rápido para Torneado.

### Forma A

DIN 4964 REDONDA

Ref. catálogo	Ø mm	L mm	Ref. catálogo	Ø mm	L mm
01070001	3	100	01070019	10	100
01070002	4	100	01070020	10	150
01070003	4	150	01070021	10	200
01070004	5	100	01070022	12	100
01070005	5	150	01070023	12	150
01070006	5	200	01070024	12	200
01070007	6	100	01070025	14	150
01070008	6	150	01070026	14	200
01070009	6	200	01070027	16	150
01070010	7	100	01070028	16	200
01070011	7	150	01070029	18	150
01070012	7	200	01070030	18	200
01070013	8	100	01070031	20	150
01070014	8	150	01070032	20	200
01070015	8	200	01070033	25	200
01070016	9	100			
01070017	9	150			
01070018	9	200			



### Forma B

DIN 4964 CUADRADA

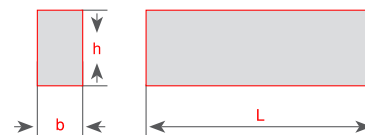
Ref. catálogo	B mm	B mm	L mm	Ref. catálogo	B mm	B mm	L mm
01070034	4	4	100	01070048	10	10	200
01070035	4	4	150	01070049	12	12	100
01070036	4	4	200	01070050	12	12	150
01070037	5	5	100	01070051	12	12	200
01070038	5	5	150	01070052	14	14	150
01070039	5	5	200	01070053	14	14	200
01070040	6	6	100	01070054	16	16	150
01070041	6	6	150	01070055	16	16	200
01070042	6	6	200	01070056	18	18	150
01070043	8	8	100	01070057	18	18	200
01070044	8	8	150	01070058	20	20	150
01070045	8	8	200	01070059	20	20	200
01070046	10	10	100	01070060	25	25	150
01070047	10	10	150	01070061	25	25	200



### Forma D

DIN 4964 RECTANGULAR

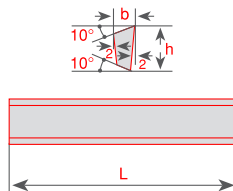
Ref. catálogo	B mm	H mm	L mm	Ref. catálogo	B mm	H mm	L mm
01070062	3	15	150	01070074	5	20	150
01070063	3	15	200	01070075	5	20	200
01070064	3	15	300	01070076	5	20	300
01070065	4	15	150	01070077	6	12	200
01070066	4	15	200	01070078	6	25	200
01070067	4	15	300	01070079	8	16	200
01070068	4	20	150	01070080	10	20	200
01070069	4	20	200	01070081	12	20	200
01070070	4	20	300	01070082	12	25	200
01070071	5	15	150				
01070072	5	15	200				
01070073	5	15	300				



### Forma L-1

DIN 4964 TRAPEZOIDAL

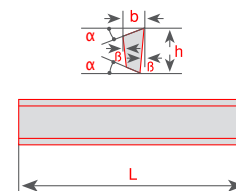
Ref. catálogo	B mm	H mm	L mm
01070083	2,5	13	100
01070084	2,5	15	100
01070085	3,5	19	125



### Forma L-2

DIN 4964 BITRAPEZOIDAL


Ref. catálogo	B mm	H mm	L mm
01070086	2,5	13	100
01070087	2,5	15	100
01070088	3,5	19	125



# 01/ HERRAMIENTAS DE CORTE

HERRAMIENTA PARA TORNEADO Y FRESADO

## 2. Herramienta Soldada para Torneado.

P-20 MATERIAL		Avance: 0,1-1,2 mm/rev Velocidad corte (m/min)
	< 850 N/mm <sup>2</sup>	160 - 100 - 60
	< 1000 N/mm <sup>2</sup>	140 - 80 - 40
	850-1300 N/mm <sup>2</sup>	60 - 40 - 25
INOX.	Austenítico Martensítico	50 - 40 - 24 50 - 40 - 24
Fundición	< 700 N/mm <sup>2</sup> 700-1000 N/mm <sup>2</sup>	90 - 70 - 45 70 - 50 - 30

K-10 MATERIAL		Avance: 0,1-1,2 mm/rev Velocidad corte (m/min)
Fundición	< 700 N/mm <sup>2</sup> 700-1000 N/mm <sup>2</sup>	140 - 100 - 50 120 - 80 - 40
Cu-Bronce	Viruta corta Viruta larga	400 - 300 - 200
Al-Mg	No aleado < 10% Si > 10% Si	400 - 300 - 200 200 - 150 - 80

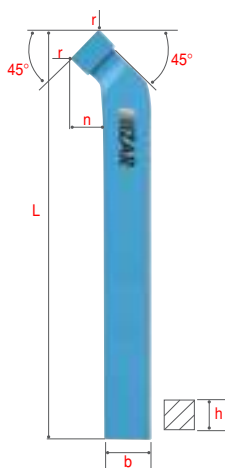
Calidad P-20:

Especialmente destinada a mecanizados de gran precisión y semi-acabado en aceros al carbono y aleados, a grandes velocidades de corte y avances moderados.

Calidad K-10:

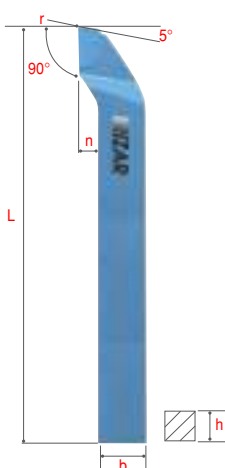
Especialmente destinada a mecanizado de gran precisión y semi-acabado en fundición, aceros aleados, materiales de viruta corta y materiales no ferrosos.

### 8900



Ref. catálogo	Código	R Dcha.	L Izda.	Cuchillas Escuadrar 45°						
				Medida	Calidad	h mm	b mm	L mm	n mm	r mm
01070089	13585	•		12x12x100-R	P-20	12	12	100	7	0,4
01070125	29153	•		12x12x100-R	K-10	12	12	100	7	0,4
01070090	13586		•	12x12x100-L	P-20	12	12	100	7	0,4
01070126	29179		•	12x12x100-L	K-10	12	12	100	7	0,4
01070091	13588	•		16x16x110-R	P-20	16	16	110	8	0,4
01070127	18258	•		16x16x110-R	K-10	16	16	110	8	0,4
01070092	13589		•	16x16x110-L	P-20	16	16	110	8	0,4
01070128	29181		•	16x16x110-L	K-10	16	16	110	8	0,4
01070093	13591	•		20x20x125-R	P-20	20	20	125	10	0,8
01070129	28343	•		20x20x125-R	K-10	20	20	125	10	0,8
01070094	13592		•	20x20x125-L	P-20	20	20	125	10	0,8
01070130	13051		•	20x20x125-L	K-10	20	20	125	10	0,8
01070095	13594	•		25x25x140-R	P-20	25	25	140	12	0,8
01070131	26003	•		25x25x140-R	K-10	25	25	140	12	0,8
01070096	13597		•	25x25x140-L	P-20	25	25	140	12	0,8
01070132	29182		•	25x25x140-L	K-10	25	25	140	12	0,8

### 8910

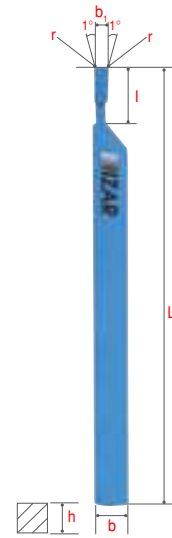


Ref. catálogo	Código	R Dcha.	L Izda.	Cuchillas Escuadrar 90°						
				Medida	Calidad	h mm	b mm	L mm	n mm	r mm
01070097	13600	•		10x10x90-R	P-20	10	10	90	4	0,2
01070133	26488	•		10x10x90-R	K-10	10	10	90	4	0,2
01070098	13601		•	10x10x90-L	P-20	10	10	90	4	0,2
01070134	29183		•	10x10x90-L	K-10	10	10	90	4	0,2
01070099	13603	•		12x12x100-R	P-20	12	12	100	5	0,4
01070135	26707	•		12x12x100-R	K-10	12	12	100	5	0,4
01070100	13604		•	12x12x100-L	P-20	12	12	100	5	0,4
01070136	29185		•	12x12x100-L	K-10	12	12	100	5	0,4
01070101	13606	•		16x16x110-R	P-20	16	16	110	6	0,4
01070137	27460	•		16x16x110-R	K-10	16	16	110	6	0,4
01070102	13607		•	16x16x110-L	P-20	16	16	110	6	0,4
01070138	13058		•	16x16x110-L	K-10	16	16	110	6	0,4
01070103	13609	•		20x20x125-R	P-20	20	20	125	8	0,8
01070139	27461	•		20x20x125-R	K-10	20	20	125	8	0,8
01070104	13612		•	20x20x125-L	P-20	20	20	125	8	0,8
01070140	10825		•	20x20x125-L	K-10	20	20	125	8	0,8
01070105	13615	•		25x25x140-R	P-20	25	25	140	10	0,8
01070141	11181	•		25x25x140-R	K-10	25	25	140	10	0,8
01070106	13616		•	25x25x140-L	P-20	25	25	140	10	0,8
01070142	17090		•	25x25x140-L	K-10	25	25	140	10	0,8

# 8920

ISO 7  
DIN 4981

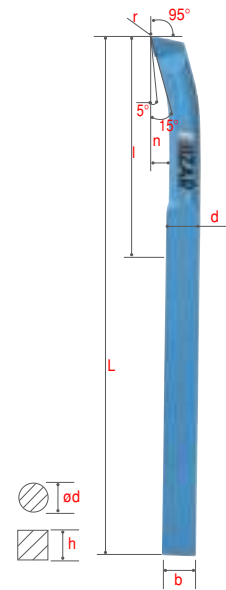
Ref. catálogo	Código	Cuchillas Tronzar									
		R Dcha.	L Izda.	Medida	Calidad	h mm	b mm	L mm	n mm	r mm	b <sub>1</sub> mm
01070107	13618	•		12x08x100-R	P-20	12	8	100	12	0,2	3
01070143	27519	•		12x08x100-R	K-10	12	8	100	12	0,2	3
01070108	13619		•	12x08x100-L	P-20	12	8	100	12	0,2	3
01070144	28344		•	12x08x100-L	K-10	12	8	100	12	0,2	3
01070109	13621	•		16x10x110-R	P-20	16	10	110	14	0,2	4
01070145	19523	•		16x10x110-R	K-10	16	10	110	14	0,2	4
01070110	13622		•	16x10x110-L	P-20	16	10	110	14	0,2	4
01070146	29186		•	16x10x110-L	K-10	16	10	110	14	0,2	4
01070111	13624	•		20x12x125-R	P-20	20	12	125	16	0,2	5
01070147	22685	•		20x12x125-R	K-10	20	12	125	16	0,2	5
01070112	13625		•	20x12x125-L	P-20	20	12	125	16	0,2	5
01070148	29187		•	20x12x125-L	K-10	20	12	125	16	0,2	5
01070113	13627	•		25x16x140-R	P-20	25	16	140	20	0,3	6
01070149	29188	•		25x16x140-R	K-10	25	16	140	20	0,3	6
01070114	13628		•	25x16x140-L	P-20	25	16	140	20	0,3	6
01070150	29189		•	25x16x140-L	K-10	25	16	140	20	0,3	6



# 8930

ISO 9  
DIN 4974

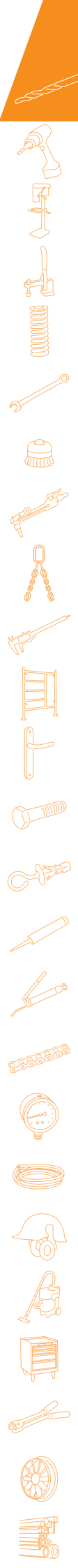
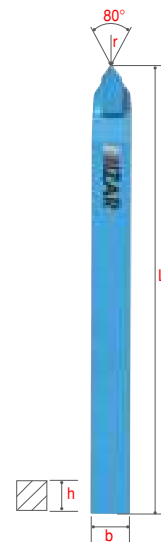
Ref. catálogo	Código	Cuchillas Torneado Interior									
		Medida	Calidad	h mm	b mm	Ø d mm	n mm	L mm	l mm	r mm	D mm
01070115	13630	08x08x125	P-20	8	8	8	3	125	40	0,2	14
01070151	14971	08x08x125	K-10	8	8	8	3	125	40	0,2	14
01070116	13631	10x10x150	P-20	10	10	10	4	150	50	0,2	18
01070152	27462	10x10x150	K-10	10	10	10	4	150	50	0,2	18
01070117	13633	12x12x180	P-20	12	12	12	5	180	63	0,2	21
01070153	27464	12x12x180	K-10	12	12	12	5	180	63	0,2	21
01070118	13634	16x16x210	P-20	16	16	16	6	210	80	0,2	27
01070154	11152	16x16x210	K-10	16	16	16	6	210	80	0,2	27
01070119	13636	20x20x250	P-20	20	20	20	8	250	100	0,4	34
01070155	11754	20x20x250	K-10	20	20	20	8	250	100	0,4	34
01070120	13639	25x25x300	P-20	25	25	25	10	300	125	0,4	43
01070156	27518	25x25x300	K-10	25	25	25	10	300	125	0,4	43
01070121	13642	32x32x355	P-20	32	32	32	12	355	160	0,8	52
01070157	13896	32x32x355	K-10	32	32	32	12	355	160	0,8	52



# 8940

ISO 10  
DIN 4975

Ref. catálogo	Código	Cuchillas Rectas Acabado					
		Medida	Calidad	h mm	b mm	L mm	r mm
01070122	13645	16x10x110	P-20	16	10	110	0,2
01070158	29190	16x10x110	K-10	16	10	110	0,2
01070123	13646	20x12x125	P-20	20	12	125	0,4
01070159	29191	20x12x125	K-10	20	12	125	0,4
01070124	13648	25x16x140	P-20	25	16	140	0,4
01070160	29192	25x16x140	K-10	25	16	140	0,4



### 3. Plaquetas y Porta-Plaquetas para Torneado.

## Crterios para la eleccin de la geometra de las plaquetas

#### 1. IDENTIFICAR TIPO DE MECANIZADO

**Exterior:**  
 1ª Rompevirutas Wiper: Doble avance y mejor acabado.  
 2ª Plaquetas positivas: Mecanizado inestable y piezas largas.  
 3ª Plaquetas negativas: Piezas estables.

**Interior:**  
 1ª Plaquetas positivas:  $\phi$  pequeños + gran voladizo.  
 2ª Plaquetas negativas:  $\phi$  grandes y estables.

#### 2. IDENTIFICAR TIPO DE OPERACIN

	EXTERIOR	INTERIOR
Torneado Longitudinal		
Refrentado		
Perfilado		

#### 3. ELECCIN GEOMETRÍA PLAQUITAS

Criterio Eleccin	Prioridad Eleccin						
	1	2	3	4	5	6	7
Filos Corte							
Estabilidad Corte Interrumpido							
Accesibilidad							
Resistencia Deformacin Plstica							

Exterior							
	●	○	○	○	○		○
	○	○	●	○	○		○
		●		○		●	○

Interior						
	○	○	○	●	○	
	●	○		○	○	
		●		○		●

○ Posible      ● Recomendado

#### 4. ELECCIN TAMAÑO PLAQUITA

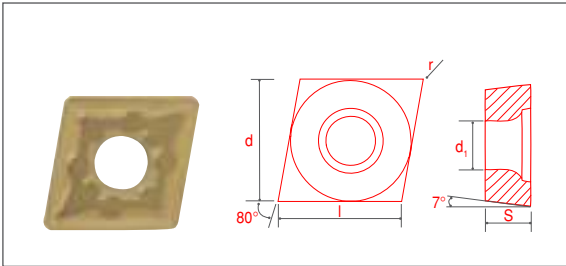
Determinar la Profundidad de Corte más grande (ap) a tornear para la eleccin del tamao de la plaqueta

ap= Profundidad Corte  
Lc= Arista Corte Efectiva

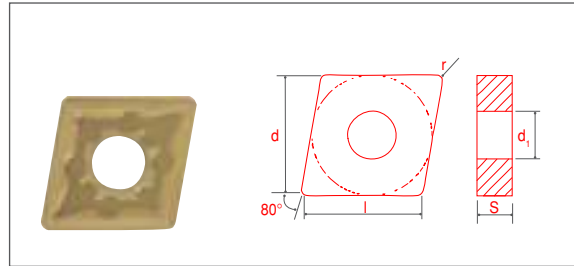
FORMA PLAQUITA	Acabado Fino ap=0,2-1 mm	Acabado ap=0,8-2 mm	Semi-Desbaste ap=2-4 mm	Desbaste ap=4-10 mm
	06...	06... 09...	12...	16... 19...
	07...	07...	11... 15...	
	09...	09...	12... 15...	19...
	11...	11... 16...	16... 22...	
	06...	06... 08...	08...	
	11...	11... 16...	16...	
	16...	16... 16...	16...	

# Plaquitas Intercambiables para Torneado

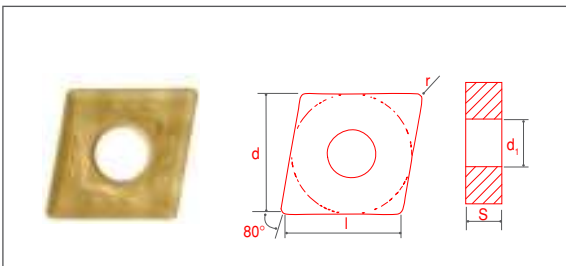
CCMT



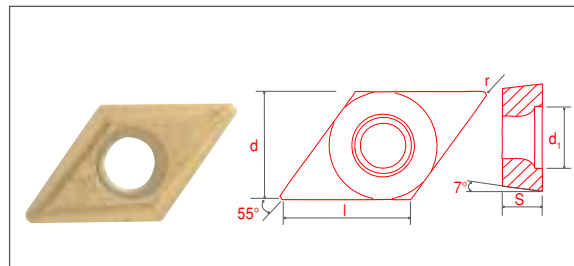
CNMG



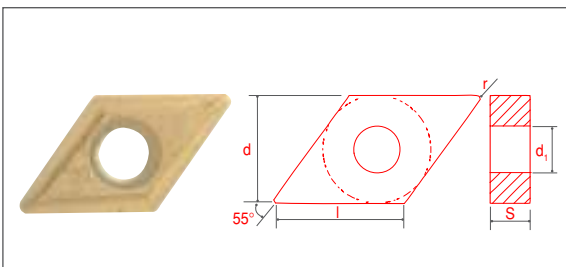
CNMM



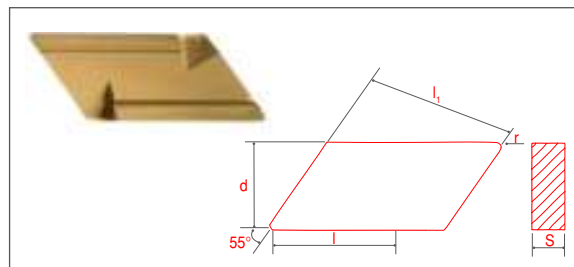
DCMT



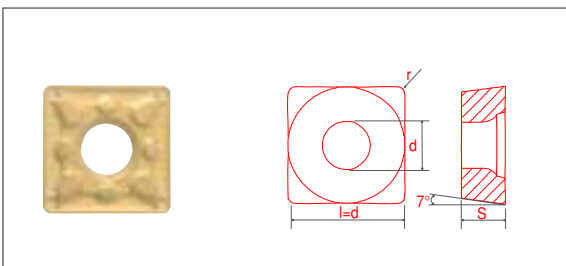
DNMG



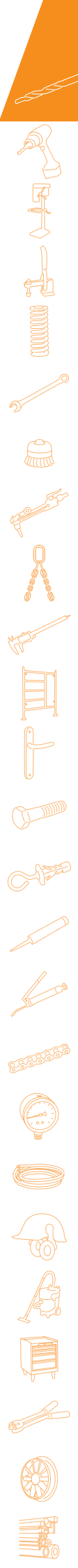
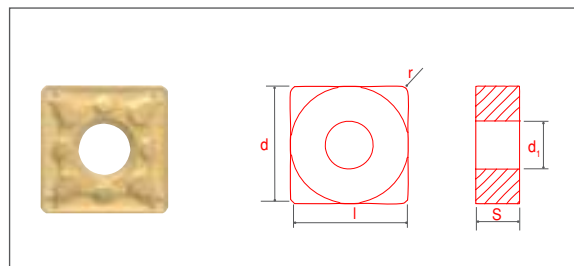
KNUX



SCMT



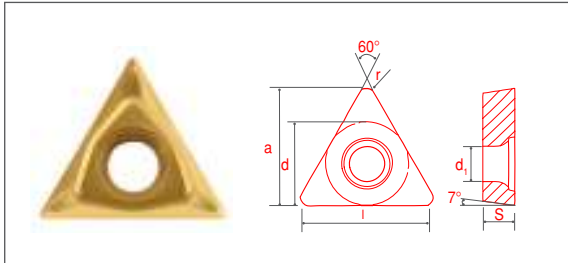
SNMG



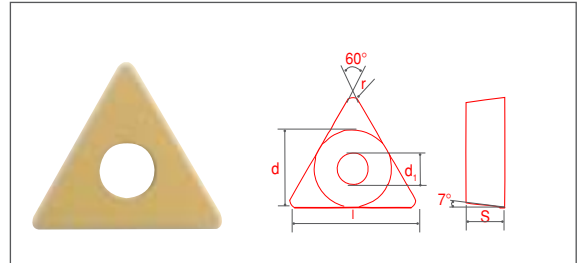
# 01/ HERRAMIENTAS DE CORTE

HERRAMIENTA PARA TORNEADO Y FRESADO

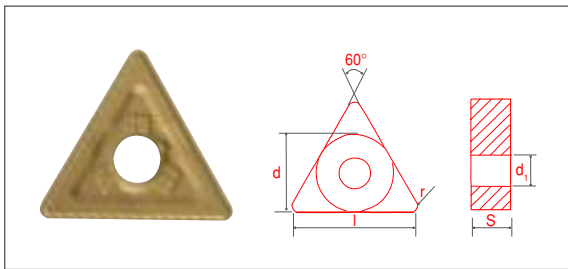
TCGT



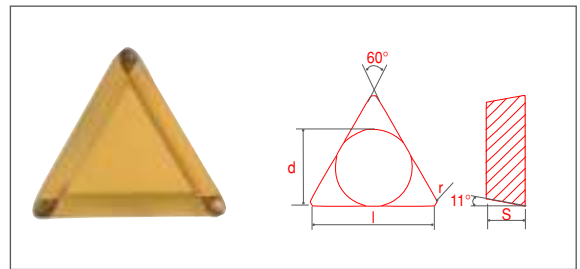
TCMT



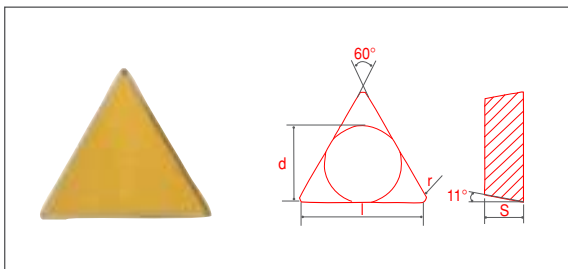
TNMG



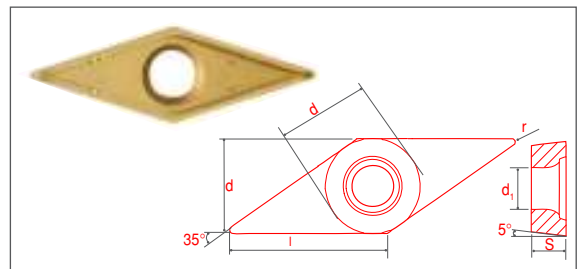
TPMR



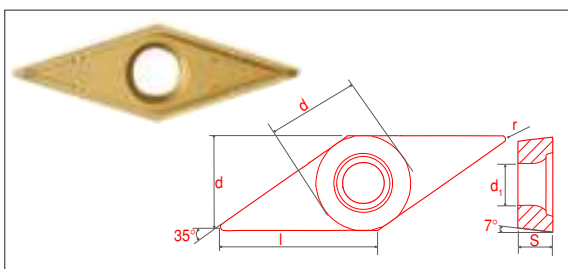
TPUN



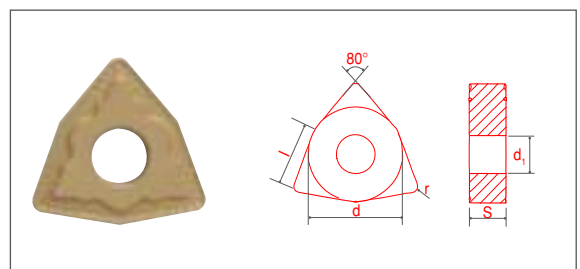
VBMT



VCMT



WNMG



## Porta-Plaquetas para Torneado Exterior

MTJ-93°



TNMG 1604...  
TNMG 2204...



MCL-95°



CNM 1204...



PDJ-93°



DNM. 1104...  
DNM. 1506...



MWL-95°



WNMG 0604...



## Porta-Plaquetas para Torneado Interior

TFC-90°



TC. 1102...  
TC. 16T3...



S-MCL-95°



CNM. 1204...



S-PDU-93°



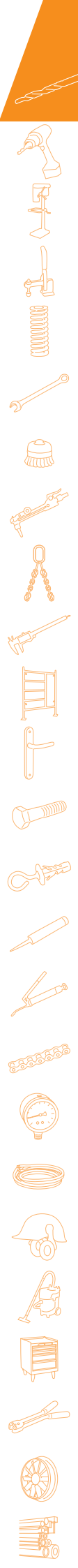
DNMG 1104...  
DNMG 1504...



S-MWL-95°



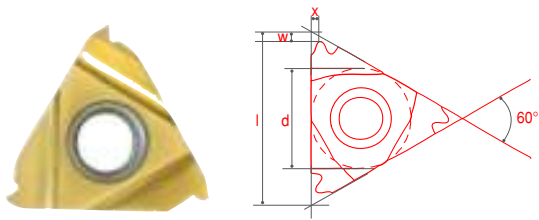
WNMG 0604...



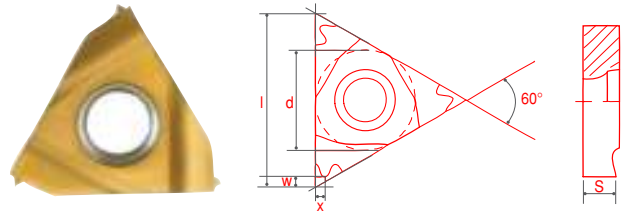
### 4. Plaquetas y Porta-Plaquetas para Roscado.

#### Plaquetas Intercambiables

PARA ROSCADO EXTERIOR  
TN..ER.M



PARA ROSCADO INTERIOR  
TN..NR.M



#### Porta-Plaquetas para Roscado

SER

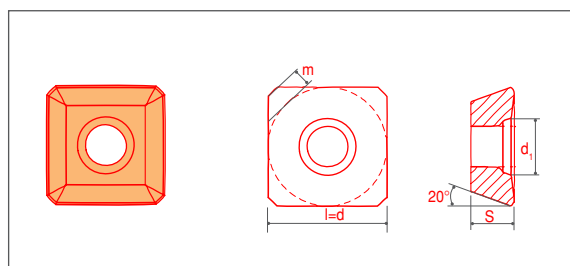


SIR

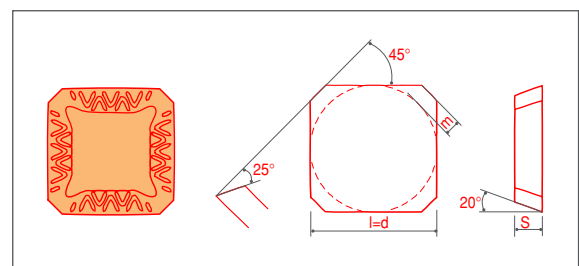


### 5. Plaquetas para Fresado.

SEET

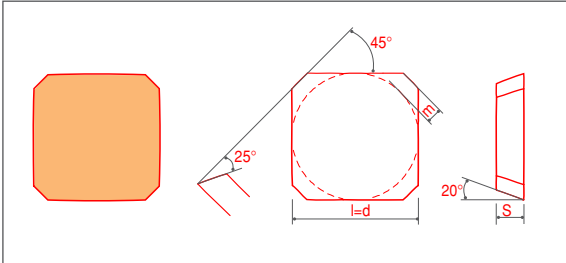


SEER

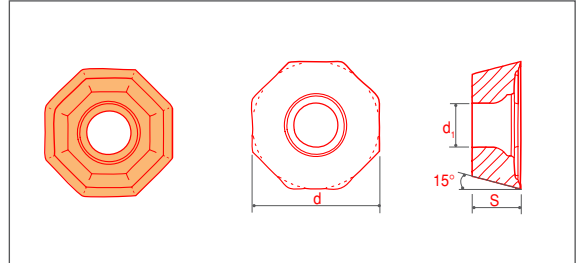




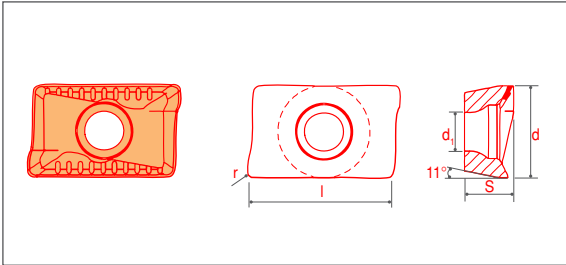
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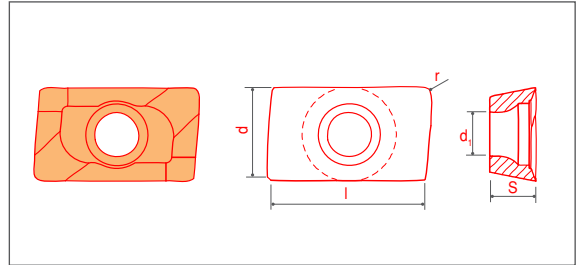
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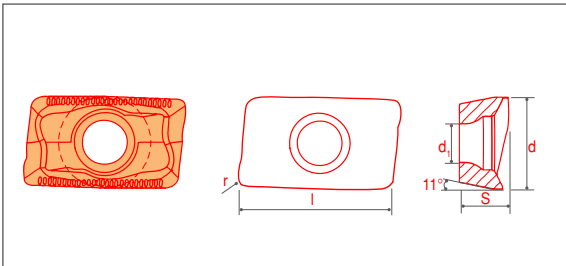
APKT FA



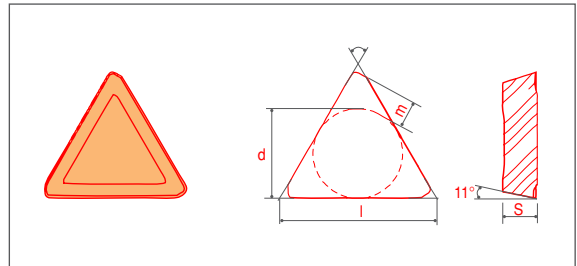
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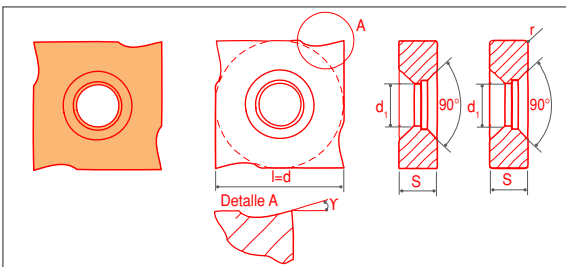
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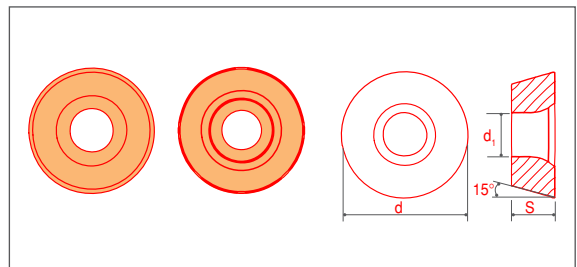
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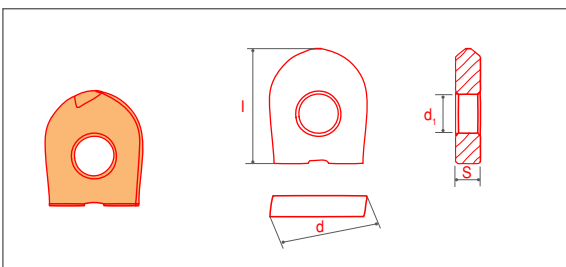
SNHQ



RDHX / RDGT



RC



LC

