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# **HEROSLAM**

**Long Life Thread Rolling Tools**

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# HEROSLAM

- ✚ History
- ✚ Market
- ✚ Products

# LOCATION

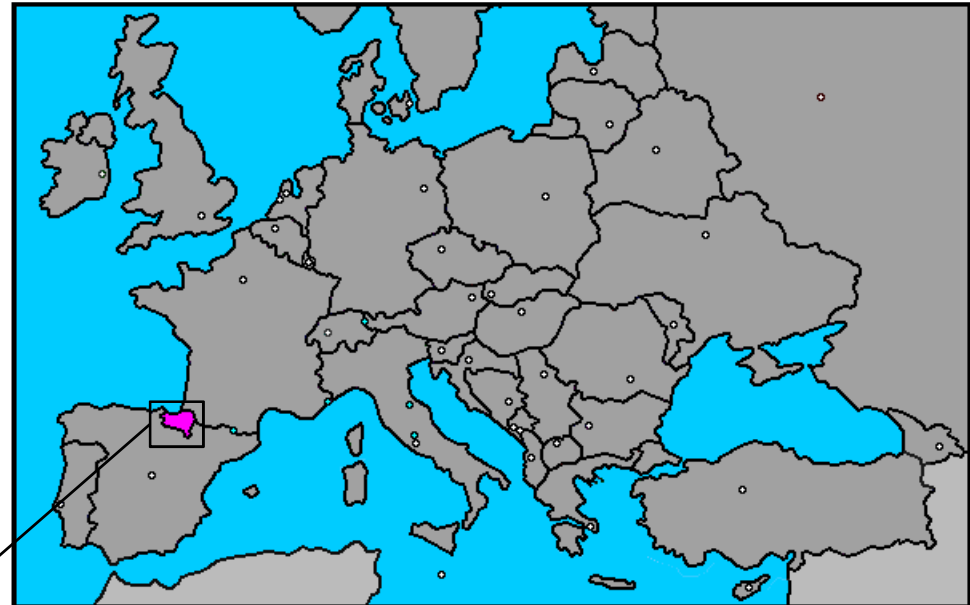
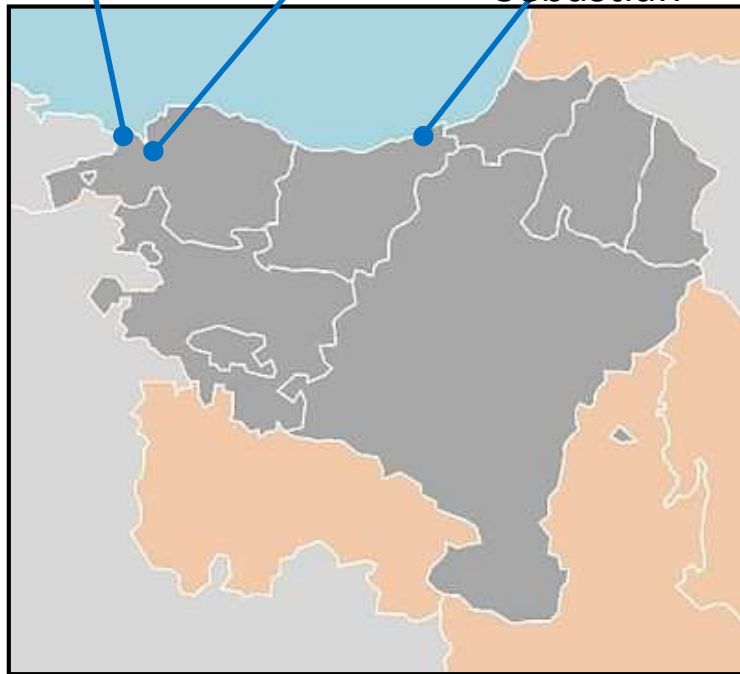


Bilbao



San

Sebastián



- ✚ Old tradition in steel forming
- ✚ High quality of know how
- ✚ Huge technical area
- ✚ Fantastic transportation network

## **HEROSLAM 2016**

- ✚ **55 workers. 37 of them are share holders of the company**
- ✚ **80% exported**
- ✚ **Production of the whole range of thread rolling tools in diferent materials**
- ✚ **99% of manufacturing process in house including heat and surface treatment**
- ✚ **Specialists in thread rolling tools to roll parts after heat treatment and very hard parts**
- ✚ **Materials and coatings developed internally**

## BUSINESS LINES

### AUTOMOTIVE



**72%**

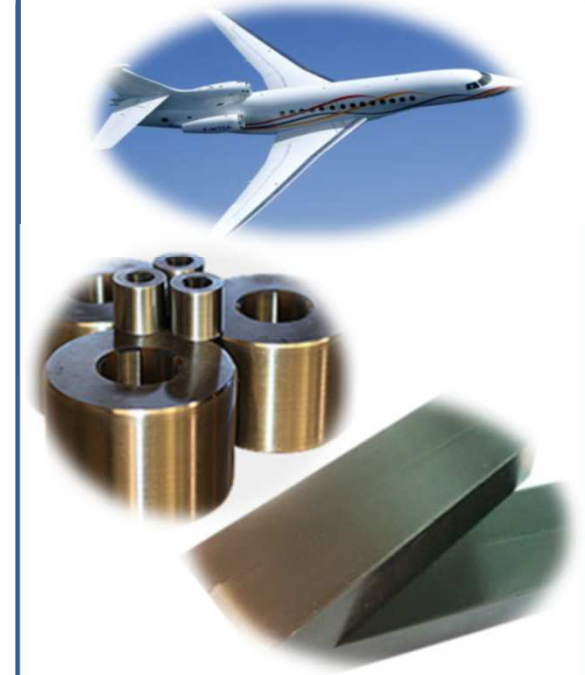
**HEROSLAM**  
Long Life Thread Rolling Tools

### OTHERS



**13%**

### AEROSPACE



**15%**

## TYPES OF TOOLING

### FLAT DIES



### PLANETARY DIES

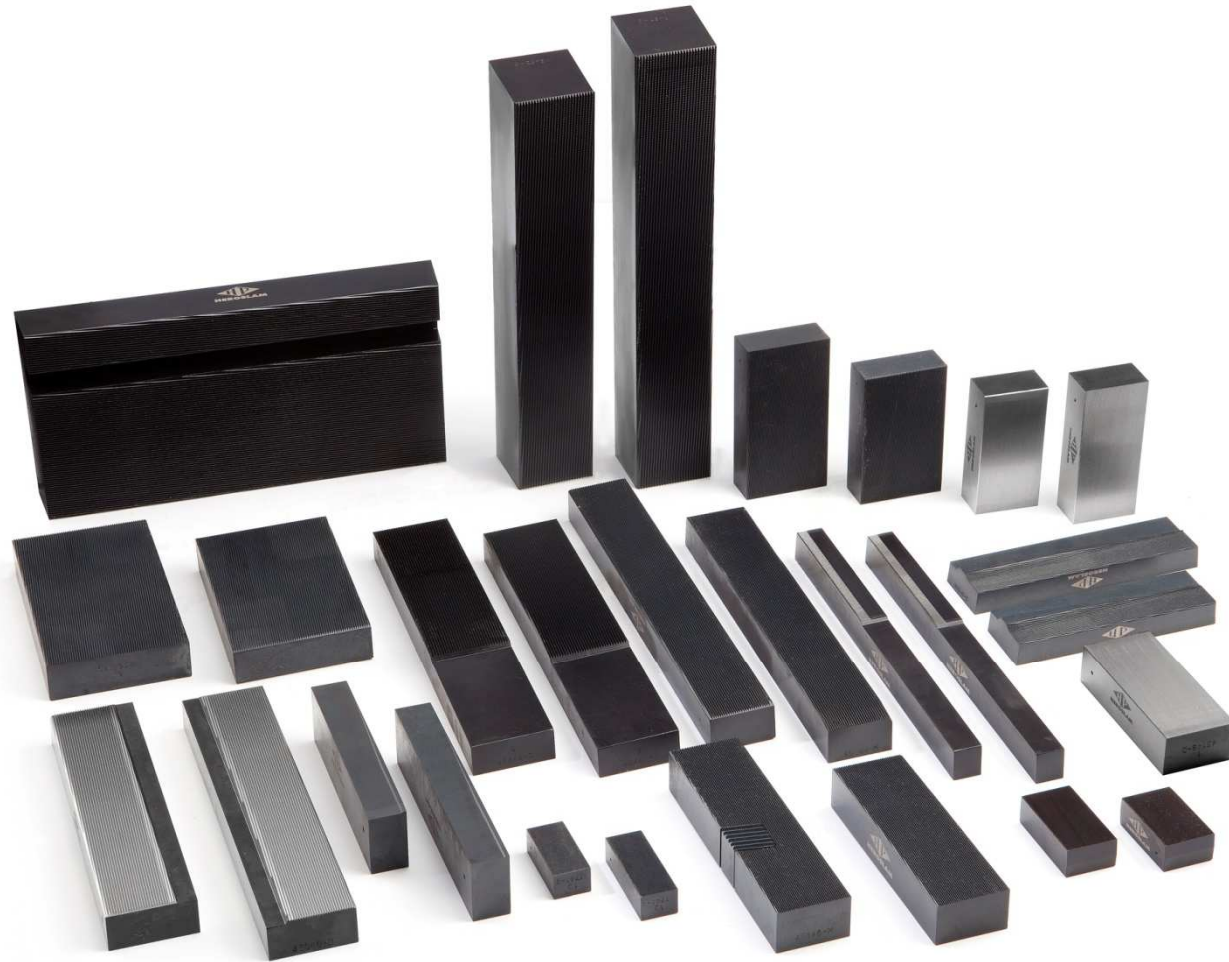


### CYLINDRICAL DIES



**HEROSLAM**  
Long Life Thread Rolling Tools

# FLAT DIES



## CYLINDRICAL DIES

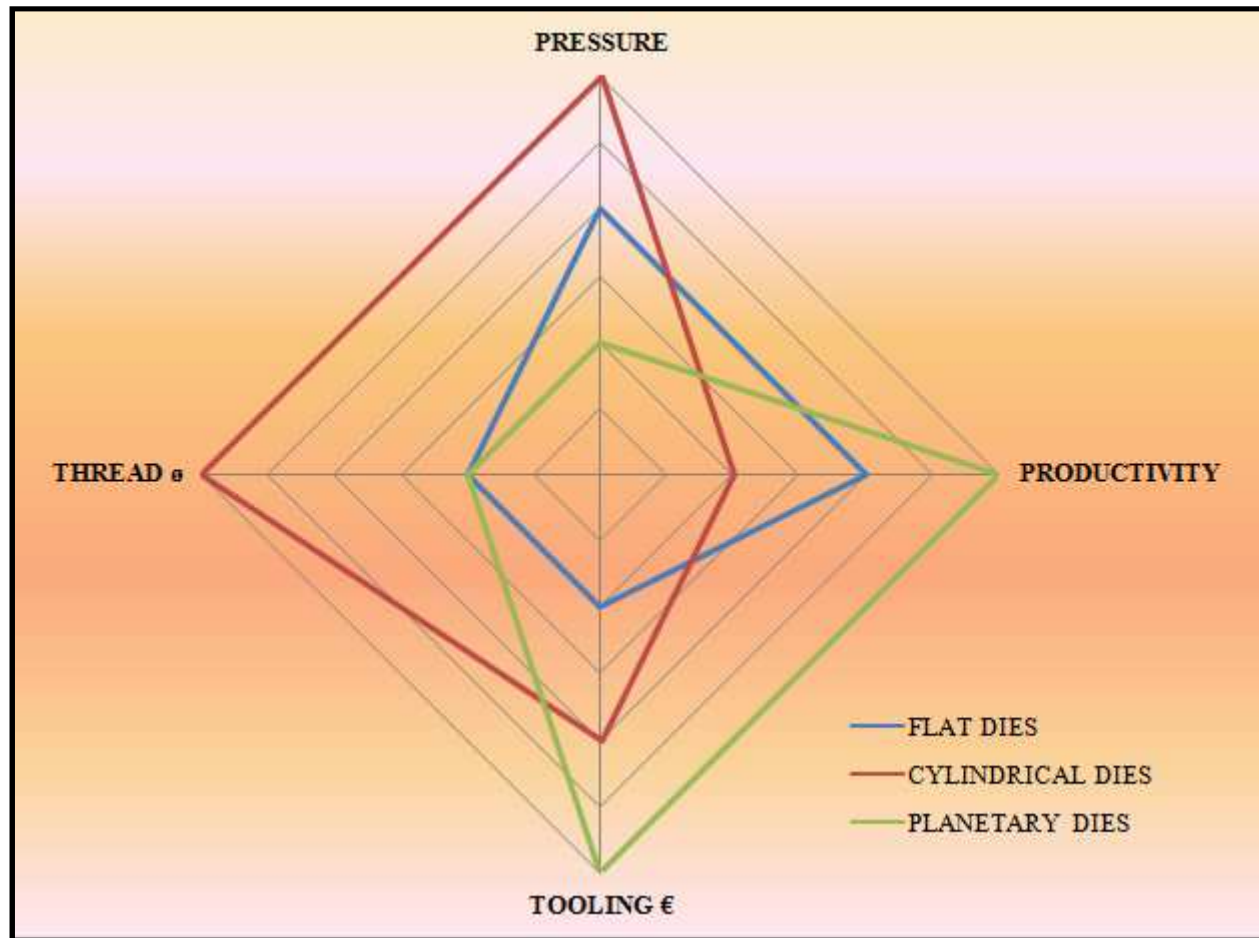




# PLANETARY DIES



# TOOLING FEATURES



## **DIE LIFE FACTORS**

- ✚ **Thread rolling machine conditions**
- ✚ **Coolant**
- ✚ **THREAD ROLLING MACHINE SET UP**
- ✚ **Part to be rolled**
- ✚ **Tooling material**
- ✚ **Tooling geometry**
- ✚ **Tooling heat and surface treatment**

## TOOLING MATERIALS

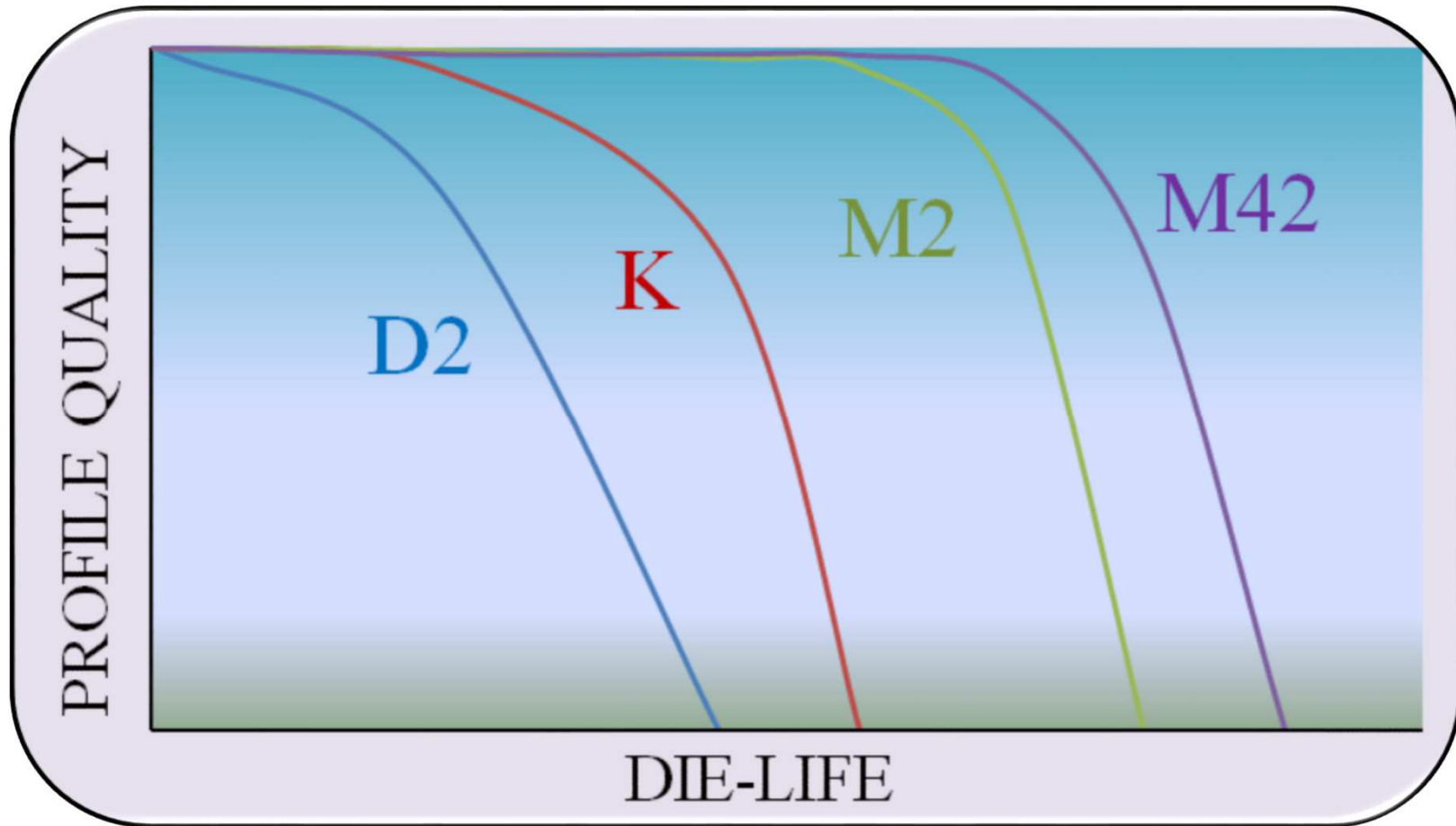
### COOL WORK STEEL

- ✚ **AISI D2, DIN 1.2379**
  - To roll parts 5.8÷8.8
  - Hardness < 28HRc
  - Just for flat dies
- ✚ **K, Material developed by HP**
  - To roll parts 5.8÷8.8
  - Hardness < 28HRc
  - Better die-life and consistency than D2
  - Just for cylindrical and planetary dies up to  $\varnothing 420\text{mm}$

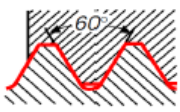

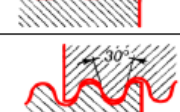
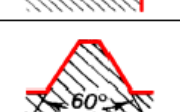
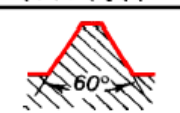
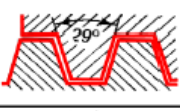
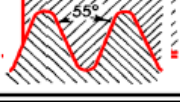

### HIGH SPEED STEEL

- ✚ **AISI M2, DIN 1.3343**
  - To roll parts 8.8÷10.9 after heat treatment
  - To roll Stainless Steel
  - Hardness 28HRc ÷ 36HRc
  - Flat dies, planetary dies and cylindrical dies up to  $\varnothing 305\text{mm}$
- ✚ **AISI M42, DIN 1.3247**
  - To roll parts 10.9÷12.9
  - Hardness 36HRc ÷ 44HRc
  - Flat dies and cylindrical dies up to  $\varnothing 198\text{mm}$

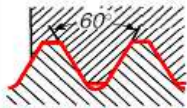
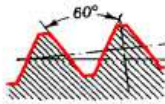
## TOOLING MATERIALS



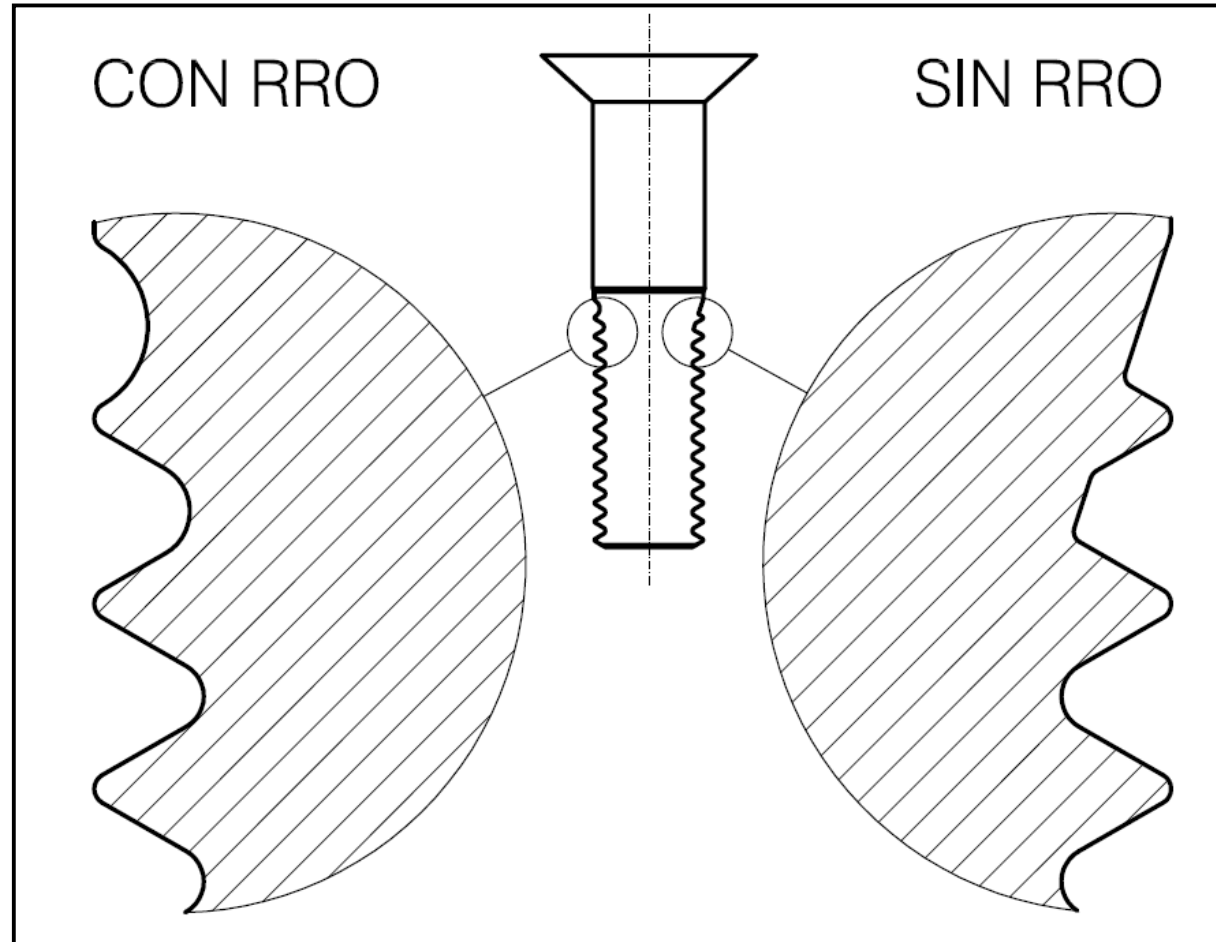
# TOOLING GEOMETRY: TYPES OF THREADS

TYPE OF THREAD	PROFILE	MAIN THREADS	APPLICATION	EXAMPLES
METRIC ISO		M	General purpose	M6, M8, M8x1...
		MJ	Aerospace	MJ6, MJ8, MJ8x1...
		TR	General purpose	TR28x5, TR30x6...
		RD	General purpose	Rd40x1/3, Rd110x1/4
		ST	Metal screws	ST3,5, ST3,9, ST4,2...
WOOD SCREW		-	Wood screw	ø3 DIN 79XX...
AMERICAN ACME THREAD		ACME	General purpose	1/4-16 ACME, 5/16-14 ACME...
BRITISH STANDARD WHITWORTH		BSW	General purpose	1/8-40 BSW, 3/18-16 BSW...

# TOOLING GEOMETRY: TYPES OF THREADS

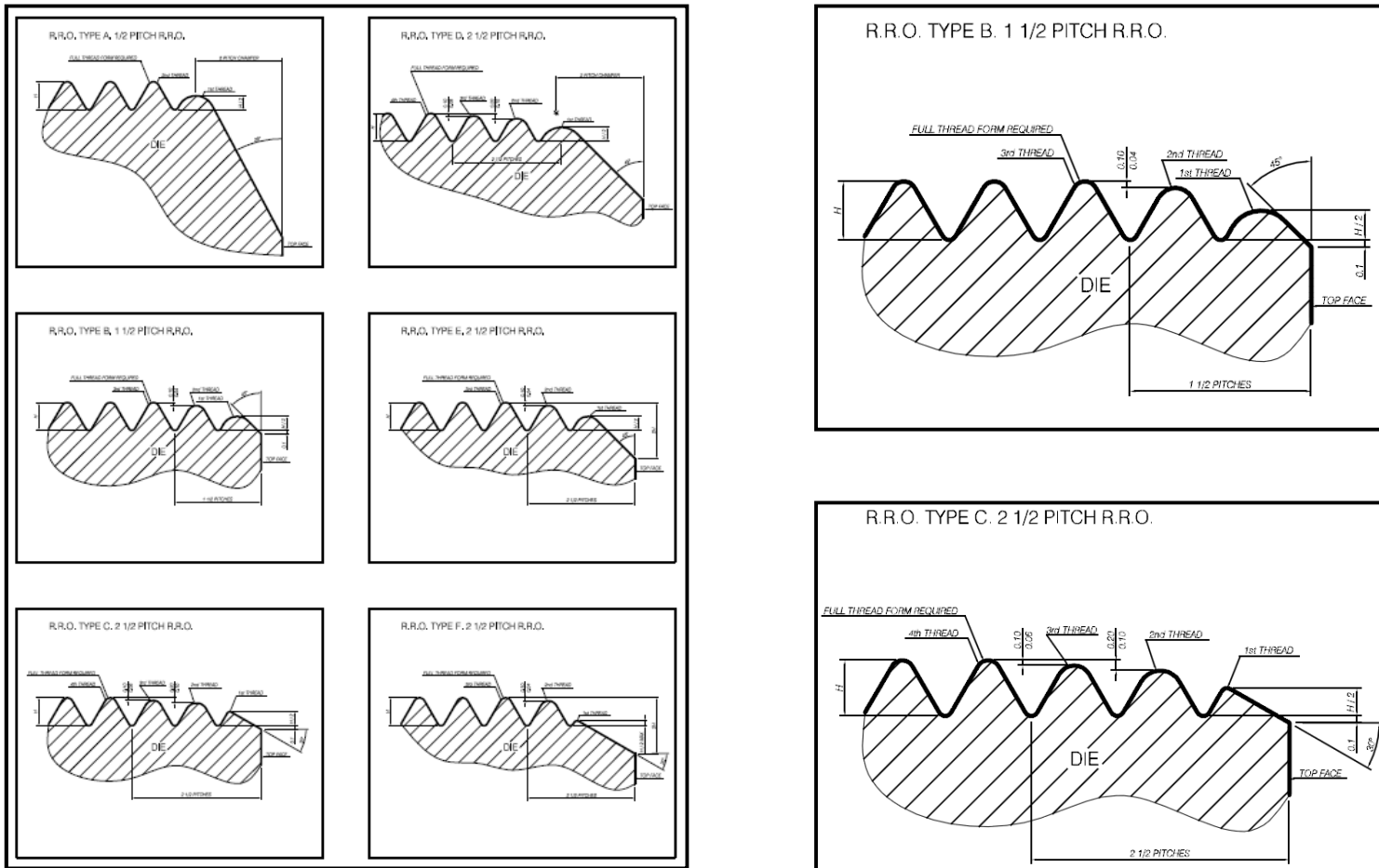
TYPE OF THREAD	PROFILE	MAIN THREADS	APPLICATION	EXAMPLES
AMERICAN UNIFIED SCREW		UNC	General purpose	12-24UNF, 5/16-18UNC...
		UNF		12-28UNF, 5/16-24UNF...
		UNEF		12-32UNEF, 5/16-32UNEF...
		UN		5/16-28UN, 3/8-20UN...
		UNS		12-36UNS, 5/16-27UNS...
		UNM		0,3UNM, 0,35UNM...
		UNJ	Aerospace	12-24UNJC, 5/16-24UNJF...
AMERICAN PIPE THREAD		NPT	Tubes	1/16-27NPT, 1 1/4-11 1/2 NPT...

## TOOLING GEOMETRY: RRO





# TOOLING GEOMETRY: RRO



## TOOLING COATINGS

 **NITRADING**

 **TIN**

 **GOGOR**

## TOOLING COATINGS: NITRADING

- ✚ Better resistance to corrosion
- ✚ Better mechanical properties
- ✚ No deformations
- ✚ Available to the whole range of toolings in K and M2



## **TOOLING COATINGS: TIN**

- ✚ Increase surface hardness
- ✚ Increase die-life in progressive cylindrical dies
- ✚ Good for strong pitches

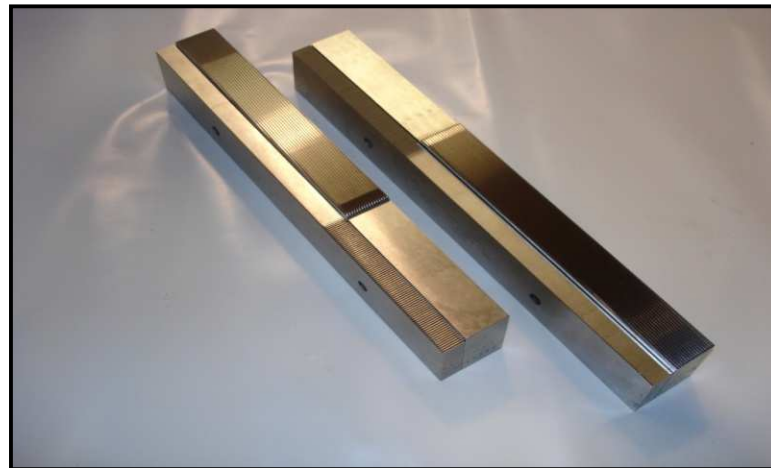


## **TOOLING COATINGS: GOGOR**

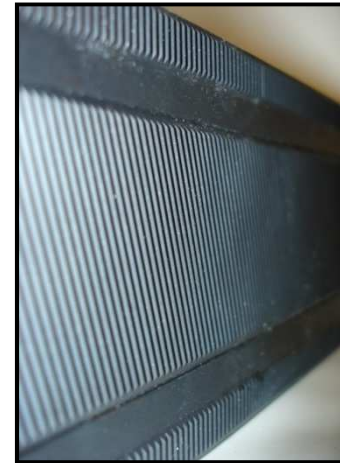
- ✚ **COATING DEVELOPED IN-HOUSE**
- ✚ **Increase die-life in 20%÷30% average**
- ✚ **The best solution for parts rolled after heat treatment**
- ✚ **Available to the whole range of toolings in M2 and M42**
- ✚ **100% OF THE PROCESS IN-HOUSE**



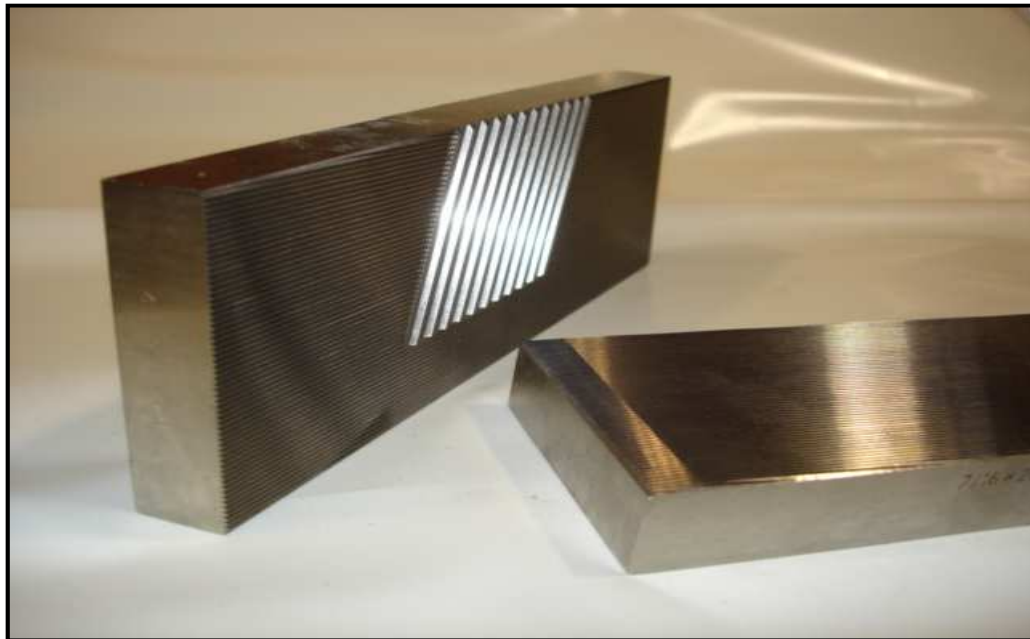
## SPECIAL DIES: COMBINATION DIES



## SPECIAL DIES : KNURLING DIES



## SPECIAL DIES : PAINT SCRAPER DIES

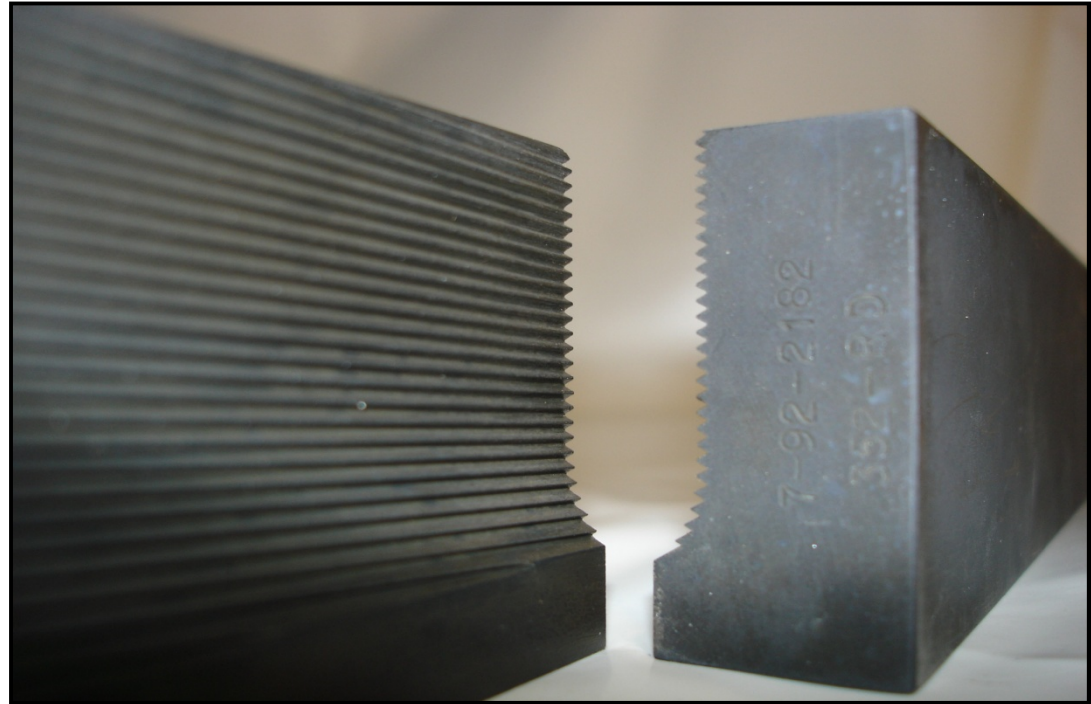
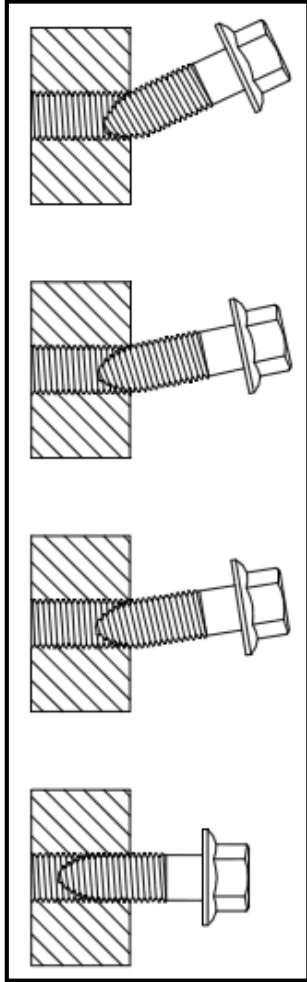




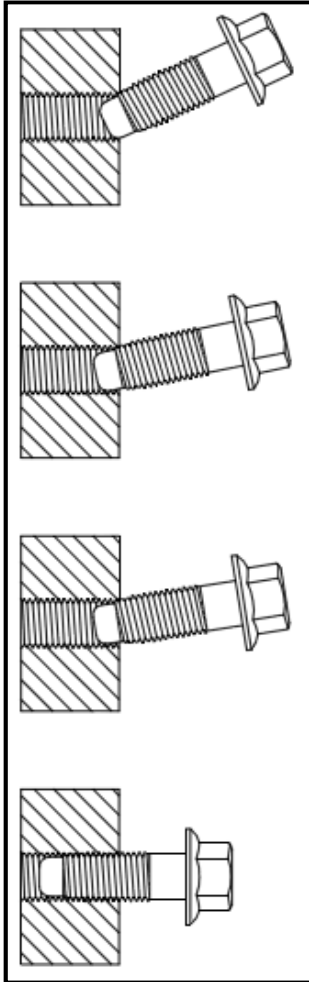
## SPECIAL DIES : GROOVE DIES



## SPECIAL DIES : OGIVAL DIES



## MATHREAD® DIES



<http://www.mathread.com/fastener.php>

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