

*The Three-S Promise:  
Superior Standards & Services!*

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## EJECTOR PIN AV03

High efficiency ejector pin grease AWF 1400



# DREI-S-WERK

PRECISION STANDARD TOOLS  
PINNING SYSTEMS  
DREI-S-technologies

# DREI-S-WERK

## Innovative by tradition

The company DREI-S-WERK was founded in 1850. In 1940, the business sector "Precision" started supplying standard parts to the engineering and motor construction industry. The traditional, medium-sized enterprise is located in D-Schwabach (Bavaria) and today has 120 employees.

The modern production site manufactures punches for dies and stamping tools, ejector pins for injection moulding and die casting moulds, measuring pins for testing departments and productions, as well as a large variety of other precision and ground parts according to standards or individual customer requirements.

The company DREI-S-WERK is one of the largest manufacturers in this market in Europe. DREI-S-WERK is market leader in the field of ejector and test pins.

DREI-S products are well-known in all relevant industry sectors for their long tool life and high reliability. Quality, service and short delivery times are our ultimate ambition. Our range of sizes is one of the largest worldwide. Even customized, special dimensions can be supplied at short notice.

## Always one step ahead

DREI-S was the first company in Europe to produce ejector components and pioneered in the preparation work for the former DIN 1530. We were also one of the first to develop and use nitriding technologies which today are customary in the market. The new ejector pin AVO3 is an advantageous product innovation for our customers, technically as well as economically.

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# EJECTOR PIN AV03

plasma nitrided, black oxidized ejector pin  
with cylindrical head

AV03 is used to eject moulded parts out of die-casting and injection-mould tools.

It has a large number of advantages:

- The tribologically optimised surface helps to preserve the tools (oxidation layer)
- The tools have a significantly longer lifetime if AV03 is used instead of conventional ejector pins
- Excellent dry-running properties thanks to oxidation layer
- High corrosion resistance thanks to oxidized surface

**Further advantages when used in injection moulding (ideal replacement for bright, nitrided ejector pin A004 or hardened ejector pin A001):**

- The oxidation layer is anchored to the connecting layer and does not cause discoloration
- The ejector pin AV03 has a longer lifetime than bright, nitrided or hardened VVS ejector pins

**Further advantages when used in die-casting (ideal replacement for nitrided, MoS<sub>2</sub> coated ejector pin A003):**

- Molten masses do not adhere to the oxidation layer
- No more blackened hands caused by coating or lubricant MoS<sub>2</sub>

**AWF 1400:**

high efficiency ejector pin grease with boron nitride

- For ejector pins in injection and die-casting moulds

**The additional use of white high efficiency ejector grease with boron nitride (AWF 1400) for the thorough but gentle lubrication of ejector pins in injection-mould and die-casting tools helps to further prolong their lifetimes.**

AWF 1400 consists of highly refined mineral oils. Thanks to solid lubricants and additives, it has excellent dry-running operation properties. It has a high thermal conductivity and is chemically stable up to 1400 °C. It is an outstanding separating agent which improves the non-wedding reaction of surfaces.

**Further advantages:**

- Oxidation- and milling-resistant
- Silicone-free and white
- Corrosion-resistant
- Water-resistant

**Easy to use and very clean:**

**Injection-moulding:** Parts are no longer dirtied by lubricants or abrasion

**Die-casting:** The use of AWF 1400 instead of the conventional lubricant MoS<sub>2</sub> prevents users' hands from being blackened

Apply a thin layer of AWF 1400 with a cloth or sponge.

AWF 1400 was developed for ejector pin AV03. However, it can also be used for other moving parts in the mould. The high efficiency ejector pin grease lasts a long time if it is used according to the instructions.

## Material properties of

high efficiency ejector pin grease AWF 1400:

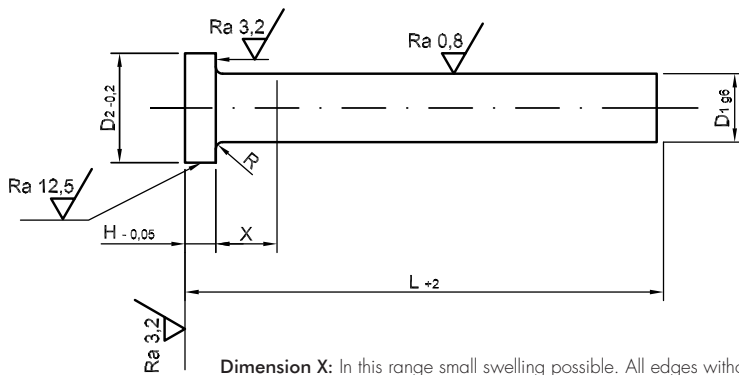
Characteristics	Unit	Value
Processing temperature	C	- 30 up to + 1400
	F	- 22 up to + 2552
Drop Point	C	> 300
Solids content	%	3
Particle size	microns	Ø 0,6 up to 0,8

## Available packing units and delivery times of AWF 1400

40 g	Tube with sponge	Ex stock
1 kg	Can	Ex stock
5 kg	Bucket	Ex stock
10 kg	Bucket	30 working days
25 kg	Bucket	30 working days

# Ejector pin Type A (AV03)

## DIN ISO 6751



Dimension X: In this range small swelling possible. All edges without burr.



### Shaft diameter D1

	1,5 - 3 Ø	3,2 - 6 Ø	6,2 - 10 Ø	10,2 - 18 Ø	20 - 25 Ø	32 - 40 Ø
g6	-0,002	-0,004	-0,005	-0,006	-0,007	-0,009
	-0,008	-0,012	-0,014	-0,017	-0,020	-0,025

**Length:** Overall length  $L_{+2}$   
For other tolerances please refer to drawing and chart. Untoleranced dimensions according to DIN ISO 2768-m

**Material:** Hot-work steel (WAS), suited for nitriding, material No. 1,2343 (X 38 Cr Mo V 51) and 1,2344 (X 40 Cr Mo V 51)

**Material properties:**  
Tempering stability approx. 600 C / 1112 F,  
heat resistance of oxidation layer: up to approx. 500 C / 932 F

**Hardness:** Shaft: Core hardness tempered to approx. HRC 44 (approx. 1400 MPa)  
Surface: Plasma nitrided and oxidized to approx. HRC 70 (950 - 1100 HV 0,3 kp)  
Because of the thin nitrided layer only checking according to Vickers max. 0,3 kp is allowed.  
Head: HRC 45+/- 5 (1250 - 1670 MPa)

**Finish:** Ground shaft, hot forged cylindrical head, plasma nitrided and black oxidized.

**Remarks:** Easy cutting of DREI-S ejector pins to any required length is possible avoiding the chip-off of nitrided layer.



# Chart

# Item No. AV03

Shaft-Ø	Head-Ø	Head-height H	Radius R	Overall length L <sub>+2</sub>																
				100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000			
1,5	3	1,5	0,2	✓	✓	✓	✓													
2,0	4	2		✓	✓	✓	✓	✓												
2,2				✓	✓	✓	✓	✓												
2,5				✓	✓	✓	✓	✓												
2,7	5			✓	✓	✓	✓	✓												
3,0	6		3	0,3	✓	✓	✓	✓	✓	✓	✓	✓								
3,2		✓			✓	✓	✓	✓	✓	✓	✓									
3,5		✓			✓	✓	✓	✓	✓	✓	✓	✓								
3,7		7			✓	✓	✓	✓	✓	✓	✓	✓								
4,0	8	✓			✓	✓	✓	✓	✓	✓	✓	✓								
4,2		✓			✓	✓	✓	✓	✓	✓	✓	✓								
4,5		✓			✓	✓	✓	✓	✓	✓	✓	✓								
5,0	10	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
5,2		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
5,5		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
6,0		12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
6,2				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
6,5	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
7,0	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
7,5	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
8,0	14	5	0,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
8,2				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
8,5				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
9,0				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
9,5				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
10,0	16		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
10,2			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
10,5			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
11,0			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
12,0			18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12,2	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
12,5	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
14,0	22	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
14,5		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
16,0		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
16,5	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
18,0		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
18,5		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
20,0	26	8	1,0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
20,5				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
25,0				32	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
32,0	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
40,0	50				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

The marked squares indicate **DREI-S standard sizes**.  
Other sizes on request.

# CONTACT

We shall be pleased to help you.

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