

## COD 11<sup>®</sup>

Metallic range

**HIGH RESISTANCE TO OXIDATION, SEIZURE, AND WEAR UNDER DIFFICULT OPERATING CONDITIONS - REDUCED MAINTENANCE**

COD 11<sup>®</sup> components, manufactured from specific alloys. They offer excellent resistance to wear and seizure in highly corrosive environments. For example, these bushings are widely used in the steel industry as replacements for bronze bushings.



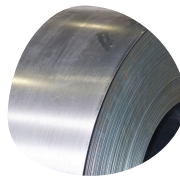
### Examples of applications:



Continuous casting



Gas holders



Winders



Offshore applications



Port applications

### Operating conditions

Topography	Grid pattern	HP	BH
Max. static pressure	200 MPa	300 MPa	350 MPa
Max. dynamic pressure	60 MPa	90 MPa	105 MPa
Max. speed	0,2 m/s		
Max. temperature	Up to 350°C		
Lubrication	Greased		
Lubrication intervals	Up to 24h	Up to 150h	Up to 300h
Assembly instructions	Press or nitrogen assembly. If something else, please contact us		

### Standard tolerances of the bushing

Inside diameter	H9*
Outside diameter	p6*

### Housing

standard tolerance	H7*
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### Shaft

Standard tolerance	f7*
Optimum roughness	< 0,8 µm
Recommended surface treatments	Hardness > 56 HRC
Optimum HEF technology	COD <sup>®</sup> ST, COD <sup>®</sup> HT, COD <sup>®</sup> OX...

### Components available in this technology

Bushings, flanged bushings, spherical plain bearings, slide pads, washers, etc.

\* Depending on the severity of your application conditions, these recommendations may change. Contact us before use

COD 11<sup>®</sup> TECHNOLOGY IS A WORLDWIDE HEF trademark – HEF IS THE ONLY AUTHORISED MANUFACTURER

COD 11<sup>®</sup> technology is the result of studies and research carried out by the HEF Group's tribology specialists. However, it must be tested and validated under your specific operating conditions to ensure proper suitability for all your parameters before it is definitively adopted.

### Contact

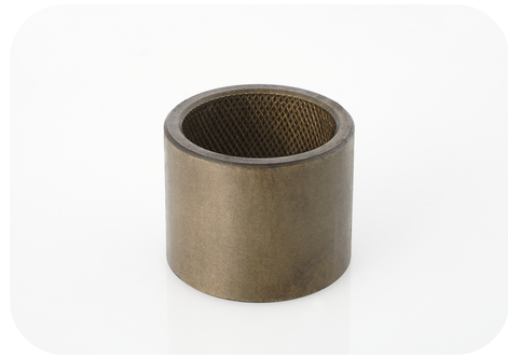
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**HIGH RESISTANCE TO ABRASION UNDER EXTREME OPERATING CONDITIONS : HIGH IMPACT, HIGH PRESSURE-MAINTENANCE-FREE**

FAM<sup>®</sup> components, made from manganese steel, have excellent resistance to abrasive wear thanks to the mechanical work hardening of the friction zone.

**Example of applications:**



**Exemples d'applications :**



Continuous casting



Clamps and grabs



Casting ladles



Bucket excavators



Conveyors

## Operating conditions

Max. static pressure	300 MPa
Max. dynamic pressure	50 MPa
Max. speed	0,05 m/s
Max. temperature	Up to 380°C
Lubrication	Greased or maintenance-free
Lubrication intervals	Initial lubrication only
Assembly instructions	Press or nitrogen assembly. If something else, please contact us

## Standard tolerances of the bushing

	Diameter	Tolerance
Inside diameter	$\varnothing 25 \leq \varnothing \leq \varnothing 50$	+0,05 / +0,20
	$\varnothing 50 < \varnothing \leq \varnothing 100$	+0,05 / +0,30
	$\varnothing > \varnothing 100$	+0,1 / +0,40
Outside diameter	s7*	

## Housing

Standard tolerance	H7*
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## Shaft

	Diameter	Tolerance
Standard tolerance	$\varnothing 25 \leq \varnothing \leq \varnothing 50$	-0,1 / -0,15
	$\varnothing 50 < \varnothing \leq \varnothing 100$	-0,2 / -0,25
	$\varnothing > \varnothing 100$	-0,25 / -0,3
Optimum roughness	< 0,8 $\mu$ m	
Recommended surface treatments	Hardness > 56 HRC	
Optimum HEF technology	FAM <sup>®</sup> ST, FAM <sup>®</sup> HT, FAM <sup>®</sup> OX, ...	

## Components available in this technology

Bushing, flanged bushings, spherical plain bearings, slide pads, washers, etc.

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## HIGH RESISTANCE TO WEAR AND SEIZURE IN ABRASIVE ENVIRONMENTS AND AT HIGH TEMPERATURES

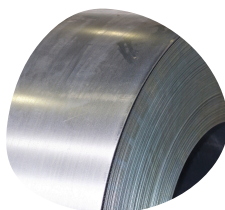
The TESCO<sup>®</sup> technology is made of high-strength steel alloys with excellent mechanical resistance and a duplex surface treatment that ensures high abrasion resistance in extreme operating conditions such as high pressures and high temperatures.



### Examples of applications:



Continuous casting



Winders



Loaders

### Operating conditions

Topography	Grid pattern	HP	BH
Max. static pressure	480 MPa	720 MPa	840 MPa
Max. dynamic pressure	100 MPa	150 MPa	250 MPa
Max. speed	1,5 m/s		
Max. temperature	Up to 500°C		
Lubrication	Greased		
Lubrication intervals	Up to 50 h	Up to 250 h	Up to 1,000 h
Assembly instructions	Press, nitrogen assembly*. If something else, please contact us		

### Standard tolerances of the bushing

Inside diameter	H9*
Outside diameter	p6*

### Housing

Standard tolerance	H7*
--------------------	-----

### Shaft

Standard tolerance	f7*
Optimum roughness	< 0,8 µm
Recommended surface treatments	Hardness > 56 HRC
Optimum HEF technology	TESCO <sup>®</sup>

### Components available in this technology

Bushings, flanged bushings, spherical plain bearings, slide pads, washers, etc.

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