

Profile of rolling bearing damage (Bearing: KA15)

Category			Unit	Specification/Value
General info		Bearing Type	-	deep groove ball bearing
		Bearing designation (dimension series, bore code)	-	6203
		Suffix	-	-
Manufacturer specific information	Geometry	Diameter of inner raceway	mm	24.00
		Diameter of outer raceway	mm	33.10
		Pitch circle diameter	mm	28.55
		Number of rolling elements	pc.	8
		Rolling element diameter	mm	6.75
		Length of rolling element	mm	6.75
		Nominal pressure angle	°	0
	Parameters	Static load rating	N	4750
		Dynamic load rating	N	9500
		Speed limit	min ⁻¹	12000
		Manufacturer	-	FAG
Application specific information	Identification	Bearing code	-	KA15
		Sample number	-	13-04
	Place of operation	Installation site	-	04
		Installation type (system type)	-	bearing damage test bench (KAt)
		Operator	-	Chair of design and Drive Technology, Paderborn
	Operating conditions	Number of load cycles	cycles	1189000
		Lifetime	h:min	6:01
		Load	N	3800
		Dynamic equivalent load	N	-
		Rotational speed	min ⁻¹	2900
		Load direction	°	0
		Comment	-	n/a

		Number of damages	1		
Category			Damage 1	Damage 2	Damage 3
Damage	Type of Damage	Mode	plastic deformation		
		Sub-mode	deformation by foreign objects		
		Symptom	particle-caused indentations		
	Damage location	Component	OR		
		Position of damage	raceway		
		Damage combination	S		
		Arrangement of the respective damages	without repetitive damage		
	Geometry	Length	mm	<1	
		Extent of damage		1	
		Width	mm	<1	
		Depth	mm	n/a	
		Characteristic of damage	single point		
	Damage occurrence	Damage method	lifetime test		
		Cause of damage (category)	operating conditions and lubricant		
		Cause of damage (detailed)	overload, wrong viscosity, contamination		

Legend

OR: outer ring

IR: inner ring

S: single damage

R: repetitive damage

M: multiple damage