Profile of rolling bearing damage (Bearing: KB27)

		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	-	KB27
		Sample number	-	11-01
	Place of operation	Installation site	-	01
		Installation type (system type)	-	bearing damage test bench (KAt)
		Operator	-	Chair of design and Drive Technology, Paderborn
	Operating conditions	Number of load cycles	cycles	3683000
		Lifetime	h:min	21:01
		Load	N	3800
		Dynamic equivalent load	N	-
		Rotational speed	min^{-1}	2900
		Load direction	°	0
		Comment	-	n/a

Dipl.-Ing. Christian Lessmeier
Pohlweg 47-49, 33098 Paderborn, Germany
Tel.: +49 5251-60-2299
Email: christian.lessmeier@upb.de

Chair of Design and Drive Technology
Prof. Dr.-Ing. Detmar Zimmer

		Number of damages	2		

Category			Damage 1	Damage 2	Damage 3
Damage	Type of Damage	Mode	plastic deformation	plastic deformation	
		Sub-mode	deformation by foreign objects	deformation by foreign objects	
		Symptom	particle-caused indentations	particle-caused indentations	
	Damage location	Component	OR	IR	
		Position of damage	raceway	raceway	
		Damage combination	M	M	
		Arrangement of the respective damages	random	random	
	Geometry	Length mm	<1	<1	
		Extent of damage	1	1	
		Width mm	<1	<1	
		Depth mm	n/a	n/a	
		Characteristic of damage	distributed	distributed	
	Damage occurence	Damage method	lifetime test	lifetime test	
		Cause of damage (category)	operating conditions and lubricant	operating conditions and lubricant	
		Cause of damage (detailed)	overload, wrong viscosity, contamination	overload, wrong viscosity, contamination	

Legend

OR: outer ring
IR: inner ring
S: single damage
R: repetitive damage
M: multiple damage