

Profile of rolling bearing damage (Bearing: KB24)

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
		Diameter of outer raceway	mm 33.1
		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
Application specific information	Parameters	Static load rating	N 4750
		Dynamic load rating	N 9500
		Speed limit	min ⁻¹ 12000
		Manufacturer	- FAG
	Identification	Bearing code	- KB24
		Sample number	- 12-01
	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 2769500
		Lifetime	h:min 15:01
		Load	N 3800
		Dynamic equivalent load	N -
		Rotational speed	min ⁻¹ 2900
		Load direction	° 0
		Comment	- n/a

		Number of damages	2	
		Category	Damage 1	Damage 2
Damage	Type of Damage	Mode	fatigue	plastic deformation
		Sub-mode	n/a	deformation by foreign objects
		Symptom	Pitting	particle-caused indentations
	Damage location	Component	IR	OR
		Position of damage	raceway	raceway
		Damage combination	M	M
		Arrangement of the respective damages	without repetitive damage	random
	Geometry	Length mm	9.4	<1
		Extent of damage	3	n/a
		Width mm	total	<1
		Depth mm	n/a	n/a
		Characteristic of damage	distributed	single point
	Damage occurrence	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