iglidur® test report

Objective of test:
Linear short stroke on various shafts The wear of iglidur® bearings must be tested with linear movements in the short stroke. Among other things, very short linear movements of 5 mm are systematically analysed at high frequency as they occur in actuators and in magnetic technology. The aim of the series of tests is to determine the most wear-resistant iglidur® plain bearing material on different shafts for the linear short stroke. Further objective of the investigation: wear data for the online service life calculation (iglidur® expert).

Client:		
Name: Gerhard Baus	Team: iglidur® plain bearings	Date: CW21/2013

Order info:	
Customer / No.: internal	
Series / No: internal	Installation type:
Customer test: Yes ☐ No X	Development test: Yes X No ☐

Technical data			
Force:	1MPa	Run time:	168 hours
Frequency:	600 strokes per minute	Shaft diameter:	10 mm
Total number of strokes:	6.05 million	Stroke length:	5 mm
Tested iglidur® bearings:	G, J, M250, W300, X, A160, A180, A181, A200, A290, A350, A500, B, C, C500, D, F, F2, GLW, GV0, H, H2, H370, H4, J2, J200, J260, J3, J350, J4, K, L100, L250, N54, P, P210, Q, Q2, R, T220, UW, UW160, UW500, V400, X6, Z, H1		
Counter partner:	Hard anodised aluminium, hardened steel shafts (CF53), 304 stainless steel, hardened stainless steel (high grade steel), structural steel (HR carbon steel)		

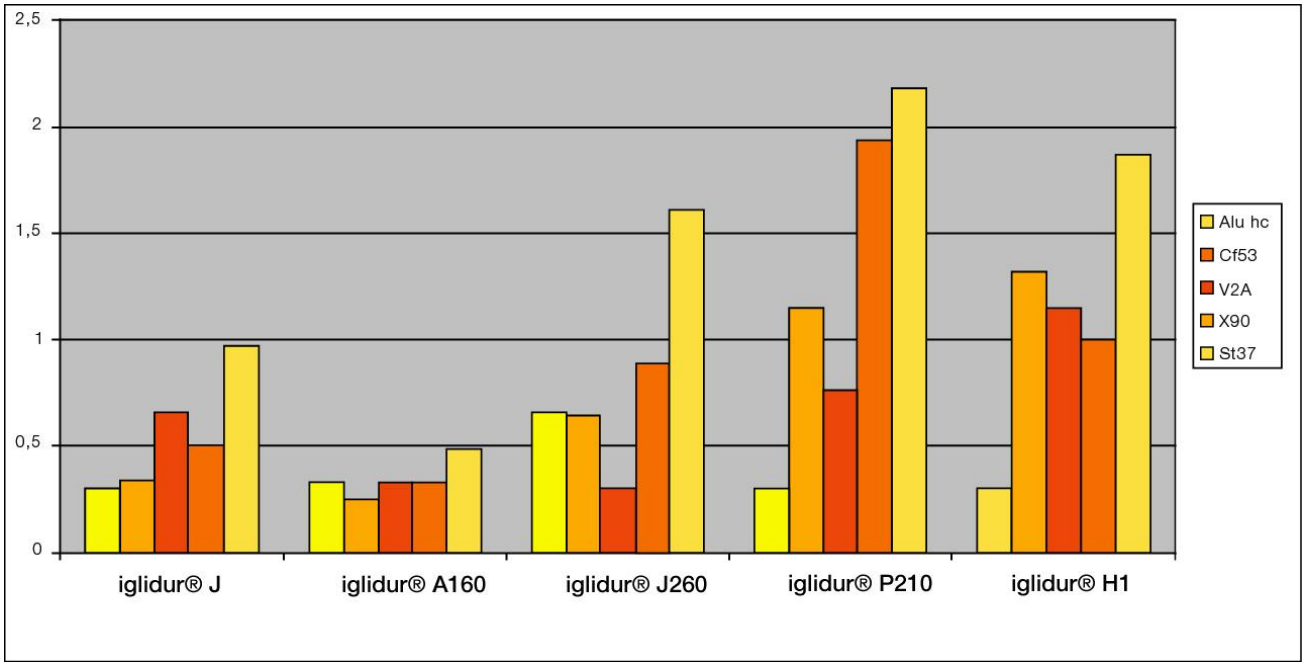
Experimental setup

Experimental procedure: The wear tests were carried out on the short-stroke test stand in the igus® laboratory. There are 10 test rigs available.

Diagram 1: Short stroke test stand

Result

Graph 1: Results of the wear tests



Evaluation

The wear behaviour of each iglidur® material varies on different shafts/counter partners in the wear tests. It is seen that the iglidur® materials are more wear-resistant on shafts made of hard anodised aluminium than on shafts made of structural steel (HR carbon steel). It should be emphasised that there is an iglidur® material for each shaft material that is wear-optimised, and vice versa.

Name:		**Date:**	CW21/2013