
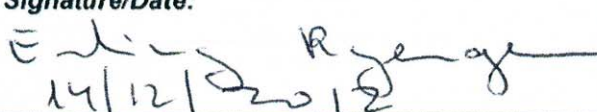
	Qualification Test Record (QTR) NORSOK M-650				QTR. No.: F51-Ring	
					Rev. No.:01	
Manufacturer name/address/ Web page:	Brück GmbH, Brückstr. 16, 66131 Ensheim - Germany www.bruck-forgings.com					
Reference standard	NORSOK M-650, Edition 4					
Material designation and MDS No.:	ASTM A182 Gr. F51; MDS D44, Revision 4.					
Manufacturing Summary doc. No.:	MS-F51-Ring				Rev. No.:02	
Products and manufacturing process(es):	Ring rolled rings					
Mandatory conditions and sub-contractors:	Heat treatment furnaces No. 5 and 6 Quench basin No. 4					
Other information:	This is an update of existing QTR F51-210 Rev.01 (NORSOK M-650 Rev. 03). Ref. M650 Ed. 4, Sect. 6.2 and 6.3. The leftover of the originally forged ring has been heat treated and qualification testing testing carried out anew. Present qualification is based on VA-QS-5130 Rev.01 i.e. Murakami etchant (No. 98, ASTM E 407). For all future orders VA-QS-5130 Rev. 02 i.e. 20% NaON (No.220) will be used, unless otherwise agreed with the customer.					
Qualification expires:	14.12.2017					
Tested and qualified thickness and weight						
Products and manufacturing process(es):	Test record No.	Tested thickness mm	Qualified thickness mm	Test piece weight kg	Qualified weight kg	
Ring rolled rings	E2897	210	210	4860	All	
Qualification/acceptance signatures						
Manufacturer:	Prepared by/Date: D. Mohr 11.12.2012		Checked by/Date: P. Bruch 12.12.2012			
The manufacturer and this QTR are evaluated and found to be in compliance with the requirements of NORSOK M-650 for supply of the above listed products and materials. This acceptance does not exempt any purchaser from his responsibility to ensure that this qualification is valid for his products within the essential variables of NORSOK M-650.						
Qualified/accepted by (company name/address):  Aker Engineering & Technology AS Reg.nr. 879 817 552			Signature/Date:  14/12/2012			