

 König + Co. GmbH	<b>QTR</b> <b>Qualification Test Record</b> <b>NORSOK M-650</b>				QTR. No.: Kö98083QTR
					Rev. No.: 3
Manufacturer name/address/ Web page:	König + Co. GmbH, Obere Industriestraße 24 – 26, D-57250 Netphen www.koenig-co.de				
Reference standard	NORSOK M-650, Edition 4, September 2011				
Material designation and MDS No.:	ASTM A240 S31254/ASTM A403 S31254, NORSOK M-630:2020, MDS R13, Rev. 6				
Manufacturing summary doc. No.:	Kö-5MS				Rev. No.: 3
Products and manufacturing process(es):	Heads made of plates, material: ASTM A240 S31254 without welding seams. <b>Forming Process:</b> Hot forming				
Mandatory conditions and sub-contractors:	Heat treatment after forming is necessary and will be carried out by own furnaces: Furnace No. 348 or No. 788 Manufacturer for starting material is Outokumpu, Plant Degerfors, Böhler Austria and other NORSOK M-650 qualified manufacturers.				
Other information:	<ul style="list-style-type: none"> <li>- Pickling will be done by own facilities.</li> <li>- Furnace No.348: Temperature uniformity survey done in 2021</li> <li>- Furnace No.788: Temperature uniformity survey done in 2021</li> <li>- Furnace No.348: Verification of heat treatment procedure done in 2012.</li> <li>- Furnace No.788: Verification of heat treatment procedure done in 2015.</li> <li>- As the water quench tank at furnace No.348 is limited in size, the water temperature before any quenching operation begins shall not exceed 35 °C.</li> <li>- Maximum weight for furnace No. 348 is 1.000 Kg</li> <li>- Tensile and Charpy impact tests might also be performed by König &amp; Co.</li> <li>- The following testing will be carried out by sub-contracting: <ul style="list-style-type: none"> <li>• <b>Hardness test, micrographic examination and corrosion testing:</b>  Zentrallabor Siegerland Braun &amp; CO.  (Accreditation no.: D-PL-18993-01-00 and ISO / IEC 17025)</li> <li>• <b>Micrographic examination:</b>  Ingenieurbüro Odenthal GbR  (Accreditation no.: D-PL-18955-01-00 and ISO / IEC 17025)</li> </ul> </li> <li>- As a review shows that König has had continuous production on actual material with satisfactory test results of the last 5 years, qualifying company accept that König shall get a five years renewal of their QTR without any new mechanical testing</li> </ul>				
Qualification expires:	<b>September 2027</b>				
<b>Tested and Qualified Thickness and Weight</b>					
Products and manufacturing process(es):	Test record No.	Tested thickness (mm)	Qualified thickness (mm)	Test piece weight (kg)	Qualified weight (kg)
Hot formed heads	98083	20 mm	25 mm	47 kg	N.A.
<b>Qualification/Acceptance signatures</b>					
<b>Manufacturer:</b>	Prepared by/Date: Haas / 27.09.2022	Checked by/Date: Haas / 27.09.2022 <b>KÖNIG + CO. GmbH</b> Obere Industriestraße 24 - 26 57250 Netphen			
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.					
<b>Qualified/Accepted by</b> (company name/address): <b>Metallic Materials Consult</b> Petter Fjellheim, Metallurgist Phone +47 97189397			Signature/Date: Petter Fjellheim 27.09.22		