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中国认可
国际互认
检测

TESTING

CNAS L9095

No.:2020-M-12281661325-3

检测报告

Test Report

产品名称

Product Name

冷拉不锈钢六方棒料

委托单位

Entrustment Company

赛洛克流体设备成都有限公司

Sailuoke Fluid Equipment Inc.

生产单位

Production Company

/

试验项目

Test Project

抗氢致开裂(HIC)试验

Resistance to Hydrogen-Induced

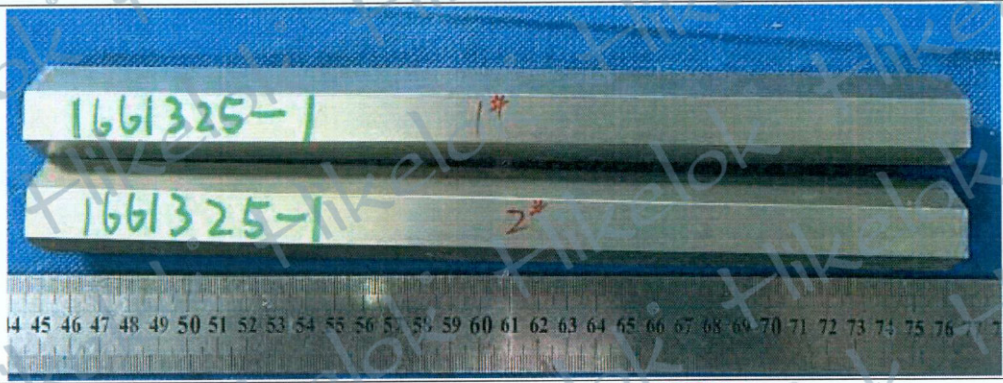
Cracking Test

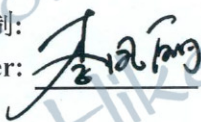
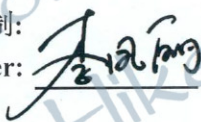
江苏容大材料腐蚀检验有限公司

Jiangsu Rongda Material Corrosion Inspection Co., Ltd.

检验检测专用章



产品名称 Product Name	冷拉不锈钢六方棒料	型号规格 Model and Specification	H27mm
委托单位 Entrustment Company	赛洛克流体设备成都有限公司 Sailuoke Fluid Equipment Inc.	材质 Material	材料牌号/标准: ASTM A479 牌号: SS316
生产单位 Production Company	/	炉批号 Heat&Batch Number	炉号: YX2005-2262, 批号: 201201
委托单位地址 Entrustment Company Address	成都市崇州市经济开发区同心路 156 号 156 Tongxin Road, Chongzhou Economic Zone, Chengdu City, Sichuan Province, P. R. China	其他 Others	/
购买商 Purchasing Merchant	/	收样日期 Sample Collect Date	2020-12-28
测试周期 Test Duration	2020.12.28-2021.01.06	委托编号 Entrustment No.	20121661325-1
试验依据 Test Basis	NACE TM0284-2016 管道钢和压力容器钢抗氢致开裂评定方法 NACE TM0284-2016 Evaluation of pipeline and pressure vessel steels for resistance to hydrogen-induced cracking		
试验项目 Test Project	抗氢致开裂(HIC)试验 Resistance to Hydrogen-Induced Cracking Test		
试验结果 Test Result	试验结果见下页 The test results are shown on the next page		
样品图片 Sample Photograph			

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签发日期: 
Issue Date: 2021-1-7

检验检测专用章



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实验室地址: 江苏省无锡市锡山区春晖路 105 号
Add: No. 105 Chunhui Road, Xishan District, Wuxi, Jiangsu, China

网站(HTTP): www.rd-test.com

服务热线(Tel): 0510-82031602, 0510-82031603

报告查询(Tel): 0510-82031639



试验信息

Test Information

试验温度 Test temperature	试验时间 Test period	试验溶液 Test solution	pH			饱和 H ₂ S 溶液的 H ₂ S 含量 H ₂ S concentration of H ₂ S saturated solution	试验后溶液的 H ₂ S 含量 H ₂ S content of solution after test	脱脂方式 Degrease method
			初始溶液 Initial solution	饱和 H ₂ S 溶液 H ₂ S saturated solution	试验终止时 End of the Test			
25±3℃	96h	A 溶液 Solution A	2.74	3.07	3.48	2316mg/L	2657mg/L	丙酮 Acetone ASTM F21-2014

注：1、A 溶液是质量分数为 5%氯化钠及 0.50%冰乙酸的蒸馏水溶液；

2、试验过程：(1) 试样脱脂；(2) 放入试验容器；(3) 配制溶液；(4) 测初始溶液的 pH；

(5) 以 100ml/min/L 的速度通氮气（浓度 99.9992%）除氧两个小时；

(6) 以 200ml/min/L 的速度通入 H₂S（浓度 99.9%）至少 1 小时至溶液饱和，后将 H₂S 速率调整到 100ml/min，持续 96h；

(7) 测饱和 H₂S 溶液的 pH 值和 H₂S 的含量；

(8) 维持 H₂S 正压至测试结束；

(9) 测试终止时溶液的 pH 值和 H₂S 含量；

(10) 按照标准切割试样，并在 100 倍下进行断面抛光检查，并评定裂纹敏感性比值、裂纹长度比值、裂纹厚度比值；

Note: 1. Solution A shall be 5.0wt%NaCl and 0.50wt% CH₃COOH in distilled water.

2. Test procedure: (1) Specimens degrease; (2) Place the specimens in the test vessel;

(3)Solution preparation; (4) Measure the pH of initial solution;

(5)Purge the test solution with nitrogen (purity 99.9992%) for at least two hours at a rate of 100ml/min per liter of test solution;

(6) H₂S gas shall be bubbled through the test solution for at least one hour at a rate of 200ml/min per liter of test solution.As long as saturation is achieved,the H₂S gas flow rate shall be reduced to 100ml/min ,and maintained at this rate for the test period of 96 hours

(7) Measure the pH and H₂S concentration of H₂S saturated solution;

(8) Maintain H₂S positive pressure until the end of the test;

(9) Measure the pH and H₂S concentration of test solution at the end of test;

(10) Cut samples according to the standards,all the cross sections shall be checked on by 100x magnification and the Crack Sensitivity Ratio(CSR),the Crack Length Ratio(CLR), the Crack Thickness Ratio(CTR) are evaluated.



属于以下任意一种情况的报告均为无效报告：a) 无“检验检测专用章”；b) 报告有涂改；c) 复制报告未重新加盖“检验检测专用章”；d) 无编制、审核、签发人签字；e) 无骑缝章。未经委托单位书面同意，不得复制本报告的任何部分。委托检测仅对来样负责，检测和判定依据报告中所述国家或国际标准。若对检测报告持有异议，应于收到报告之日起 15 日内向检测单位提出，逾期不予处理。

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试验结果 Test Result										
试样编号 Specimen Number	检测面 Test Surface	CLR (%)			CTR (%)			CSR (%)		
		实测值 Test Value	每个试样平均值 Average Value of each test specimen	每组试样平均值 Average Value of Each group	实测值 Test Value	每个试样平均值 Average Value of each test specimen	每组试样平均值 Average Value of Each group	实测值 Test Value	每个试样平均值 Average Value of each test specimen	每组试样平均值 Average Value of Each group
1661325-11	001	0	0	0	0	0	0	0	0	0
	002	0			0			0		
	003	0			0			0		
1661325-12	004	0	0	0	0	0	0	0	0	0
	005	0			0			0		
	006	0			0			0		
1661325-13	007	0	0	0	0	0	0	0	0	0
	008	0			0			0		
	009	0			0			0		



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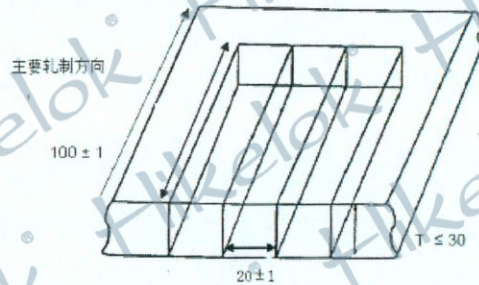
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切割后 After Cutting



厚度不超过 30mm 的试板 HIC 取样位置 (单位 mm)

Test specimen location for plates less than 30mm

备注: 取样参照 NACE TM0284-2016 图 7, 厚度不超过 30mm 的试板沿轧制方向取长 100 ± 1 mm, 宽 20 ± 1 mm 的试样。

Note: Sampling refers to Figure 7 of NACE TM0284-2016, For the test plate thickness ≤ 30 mm, take the sample with length of 100 ± 1 mm and width of 20 ± 1 mm along the rolling direction.



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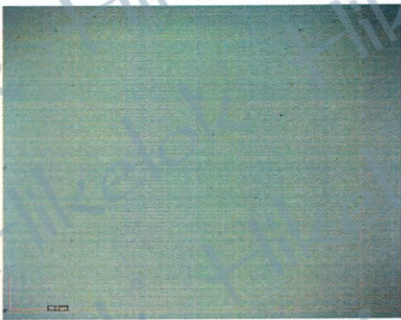
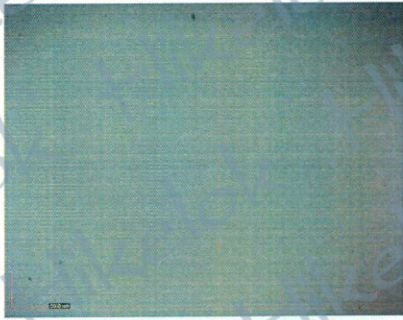
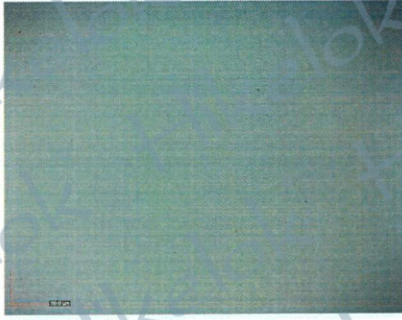
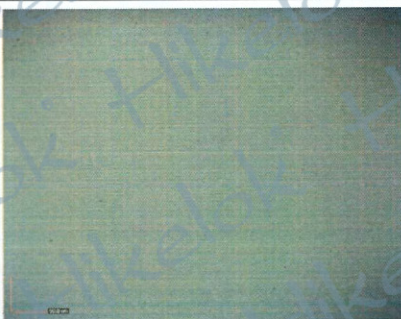
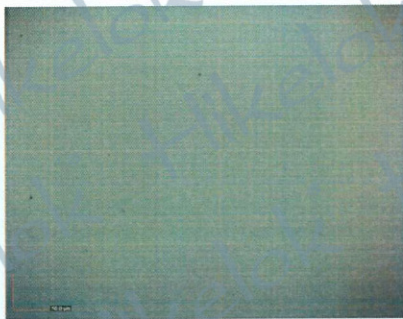
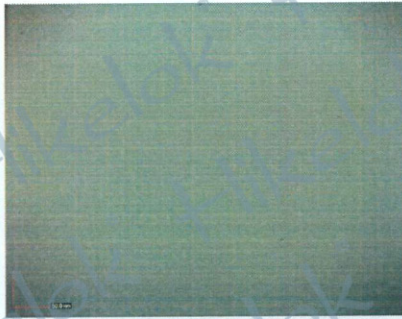
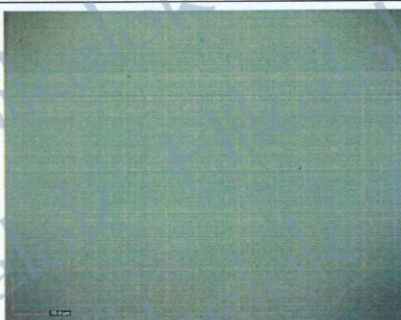

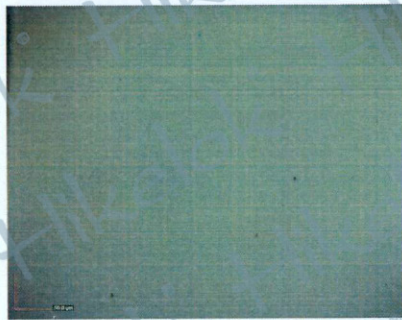
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试样检测面照片 (100X) Test Surfaces Photos of Specimen		
		
001 无裂纹 No Cracks	002 无裂纹 No Cracks	003 无裂纹 No Cracks
		
004 无裂纹 No Cracks	005 无裂纹 No Cracks	006 无裂纹 No Cracks
		
007 无裂纹 No Cracks	008 无裂纹 No Cracks	009 无裂纹 No Cracks

报告结束
End of Report



声明 Statement

1、 报告无试验报告专用章或检验单位公章无效。

This report will be invalid if no special seal of the test report or public seal of the testing department are stamped.

2、 报告无编制、审核、批准人签章无效。

This report will be invalid if there are no signatures or seals of the compiler, auditor or certifier .

3、 报告涂改无效。

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4、 对试验报告若有异议，请于收到报告之日起十五日内向检验单位提出。

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If the uncertainty data is not issued in the report, the conformance decision is based only on whether the measured value is within the prescribed limit value and does not consider the effect of uncertainty.

6、 本实验室接受委托送检的，其检验检测数据、结果仅证明样品所检验检测项目的符合性情况。

The datum and results shown in this report only refer to conformity to the inspection items or the testing items which are carried out for the submitted sample when our laboratory is entrusted with the test.

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If there is any discrepancy between the Chinese and the English versions of the above statement, the Chinese version shall prevail.

