

检测报告

Test Report

报告编号

Report No.: ROCKB202204037

产品名称
Product Name

M12 缠绕垫片
M12 Spiral Wound Gasket

委托单位
Customer

浙江喜鹊密封件有限公司
Zhejiang Magpie Sealing Element Co., Ltd.
浙江省温州市永嘉县瓯北街道浦一村谢宅巷 9 号

委托单位地址
Customer's Address

No.9 Xiezhai Alley, Puyi Village, Oubei Street,
Yongjia County, Wenzhou City, Zhejiang Province

试验起始日期
Date Started

2022 年 6 月 5 日
June 5, 2022

试验结束日期
Date Finished

2022 年 6 月 11 日
June 11, 2022

浙江岩石机械检测有限公司
Zhejiang Rock Mechanical Inspection and Testing Co., Ltd.



声明 Statement

1. 检测报告封面无公司“检验检测专用章”、检测报告无“检验检测专用章”骑缝、检测报告结论无“检验检测专用章”或无审核人、批准人签字无效。

The report is invalid without “Inspection and Testing Stamp” on report cover and cross pages and on conclusion, or without signature of reviewer and approver.

2. 报告涂改无效。

Report is invalid if altered.

3. 本公司仅对正式报告负责，任何形式的复印件、传真件、影印件、电子文本仅作参考之用。任何人不得剪辑或部分复制其中的内容。

The company is only responsible for the original report. Any form of copy, fax, photocopy, electronic texts can only be regarded as reference. Editing or partial copy by any party is not allowed.

4. 非本公司抽样，检测报告仅对送检样品负责，委托单位对样品的代表性和相关资料的真实性负责。

Company is not responsible for sampling, therefore the report is only responsible for submitted sample. Customer shall be responsible for the representativity of submitted sample and the authenticity of submitted documents.

5. 委托单位若对检测报告有异议，应于本报告报出之日起三十日内向检测单位提出书面申请。

If customer has any objection to report, written application shall be raised by customer within 30 days after the issue of report.

6. 本公司对不可重复性试验、异议期内不稳定样品、检测无剩余样品等不具备复检条件的委托检测任务，不进行复检。

Company doesn't have the obligation to repeat testing when testing doesn't have repeatability, or samples are not stable during objection period, or sample is used up.

7. 本公司承诺保护委托单位在检测业务中涉及的商业信息、技术文件和商业秘密等，妥善处理相关资料、样品和数据。

Company promises all commercial information, technical document or trade secret related to testing shall be protected, and all documents, samples and data shall be properly handled.

通讯地址：浙江省温州市永嘉县瓯北街道和一工业区

Address: Heyi Industrial Zone, Oubei, Yongjia, Wenzhou, Zhejiang.

邮政编码 Post code: 325000

联系电话 Tel.: 0577-6708 7799

传 真 Fax: 0577-6708 7799

邮 箱 E-mail: rock@rock-lab.cn

网 址 Web: www.rock-lab.cn

概述 Summary

产品名称 Product Name	M12 缠绕垫片 M12 Spiral Wound Gasket	材料 Material	SS304 + 石墨 SS304 + Graphite
垫片尺寸 Gasket size	$\phi 57\text{mm} \times \phi 73\text{mm} \times 3.7\text{mm}$	试验介质 Test medium	99.999% 氦气 99.999% Helium
抽样方 Valve Selected by	委托单位 Customer	收样时间 Sample Collect Date	2022.06.04
试验标准 Test Basis	TA-Luft 2021, Clause 5.2.6.3 VDI 2200, June 2007, Annex B		
合格标准 Acceptance Criteria	$10^{-4} \text{ mbar} \cdot \text{l}/(\text{s} \cdot \text{m})$		
试验场地 Test Facility	中国浙江省永嘉县瓯北镇和一工业区岩石阀门检测实验室 ROCK Valve Testing Lab, Heyi Industrial Zone, Oubei, Yongjia, Zhejiang, PRC		

泄漏测量设备 Leakage Detection Equipment

设备名称 Device Name	氦质谱检漏仪 He mass spectrometer	品牌/型号/系列号 Brand / Model / SN	Leybold / PHOENIX L300i / 90001197646
设备ID Device ID	J002	灵敏度 Sensitivity	5E-12 mbar $\cdot$ l $\cdot$ s $^{-1}$
真空氦漏孔编号 Helium Standard Leak SN	90001234656	真空氦漏孔有效期 Helium Standard Leak Validity	2023-03-16

实测垫片尺寸 Actual Measured Gasket Dimension

垫片外径 Gasket OD	72.58 mm	垫片内径 Gasket ID	57.18 mm
密封面积 Sealing Area	1568.67 mm 2	密封面外周长 Outer Perimeter of Sealing Surface	227.90 mm

试验记录 Test Records

步骤 Step	试验内容 Test Content	试验温度 Test Temperature	垫片密封压力 Gasket Compression Force	垫片密封比压 Gasket Sealing Stress	垫片压缩量 Gasket compression
1	初始装配 Initial Assembly	22.4 °C	47.06 kN	30.00 MPa	1.284 mm
2	高温保温 Thermal Storage	试验温度 Test Temperature	高温保持时间 Thermal storage duration		垫片压缩量 Gasket compression
		300°C $\pm$ 1°C	48 hours		1.284 mm
3	冷却后泄漏测量 Leak measurement after cooling down	试验温度 Test Temperature	垫片密封压力 Gasket Compression Force	垫片密封比压 Gasket Sealing Stress	垫片压缩量 Gasket compression
		23.7 °C	28.72 kN	18.31 MPa	1.284 mm
		试验压力 Test Pressure	测得泄漏量 Measured Leak	单位长度泄漏量 Leak per meter	结论 Result
		1 bar	1.78E-06 mbar $\cdot$ l/s	7.81E-06 mbar $\cdot$ l/(s $\cdot$ m)	合格PASS
4	冷却24小时后泄漏测量 Leak measurement after 24-hour cooling down	试验温度 Test Temperature	垫片密封压力 Gasket Compression Force	垫片密封比压 Gasket Sealing Stress	垫片压缩量 Gasket compression
		21.5 °C	28.72 kN	18.31 MPa	1.284 mm
		试验压力 Test Pressure	测得泄漏量 Measured Leak	单位长度泄漏量 Leak per meter	结论 Result
		1 bar	1.86E-06 mbar $\cdot$ l/s	8.16E-06 mbar $\cdot$ l/(s $\cdot$ m)	合格PASS

编制/日期:

PRPD/DATE: 金永纪 2022.6.13

审核/日期:

CHKD/DATE: 胡时 2022.6.13

批准/日期:

APPD/DATE: 邵时 2022.6.13



试验垫片 Test Gasket



试验工装 Test rig

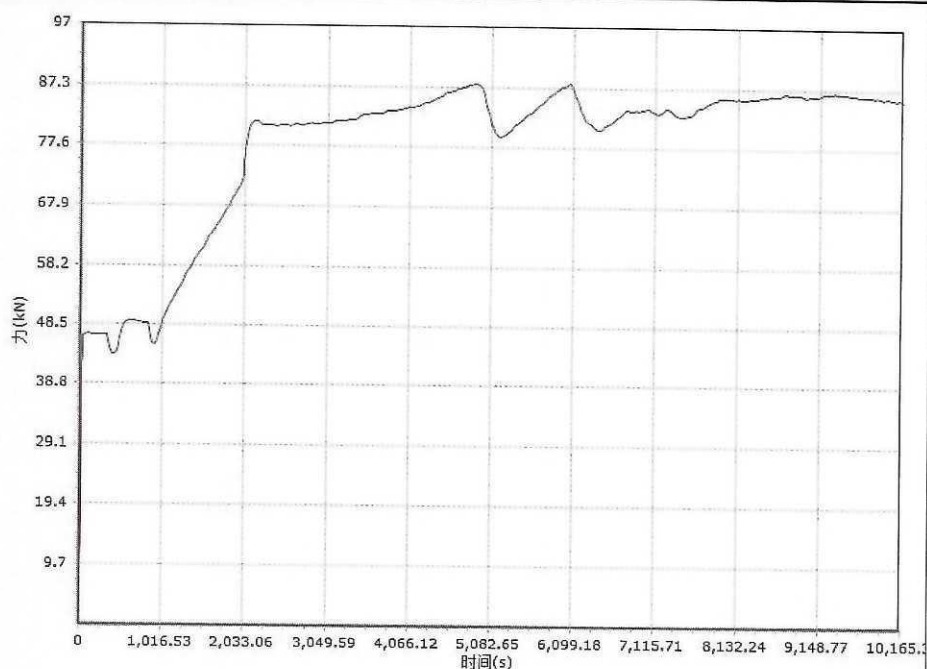
照片记录 Photographic Records



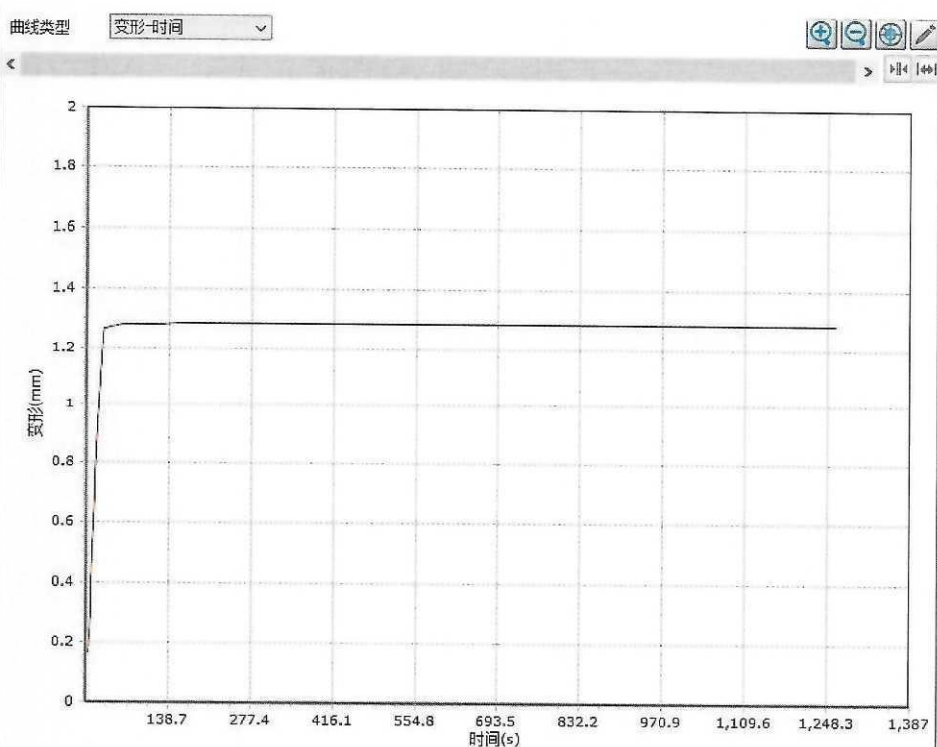
试验过程 Test Process



泄漏测量 leak measurement



升温过程中垫片密封压力增加
Gasket compression force increases during heating



试验过程中垫片压缩量 Gasket compression during testing

报告结束
End of this report