ACCREDITATION SCHEME FOR LABORATORIES



Number

: LA-2022-0818-C

Date of Issue

17 October 2022

Date of Expiry

16 October 2026

Certificate of Accreditation

This certifies that

ZWICKROELL PTE. LTD.

18 Boon Lay Way

#06-105 TradeHub 21

Singapore 609966

is accredited by the Singapore Accreditation Council to

ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories

within the field/programme of

Calibration & Measurement

for the specific scope as detailed in the attached schedule.

On behalf of the Singapore Accreditation Council Tan Kai Hoe Chairman

This Certificate is awarded subject to the organisation's compliance with the stated criteria and terms and conditions laid down by the Singapore Accreditation Council.

This Certificate may not be reproduced except with the written permission of the Chairman.

This is an electronically generated certificate, hence does not require a signature.

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SINGAPORE LABORATORY ACCREDITATION SCHEME



Schedule

ZwickRoell Pte. Ltd. 18 Boon Lay Way,

06-105

TradeHub 21

Singapore 609966

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FIELD OF TESTING: Calibration and Measurement

	METHOD	MEASURED QUANTITIES / INSTRUMENTS / RANGE TO BE CALIBRATED	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A.	Mechanical		
1.	ZRSG-02-WP001 Rev 01 site/overseas site WP	Impact Tester	
a)	ISO 13802: 2015 ASTM D 256: 2018	Plastic Material (up to 50J)	
		Center Of Percussion	0.4%
		Potential Energy	0.5%
		Error in Indicated Energy	0.02%
b)	ZRSG-02-WP001 Rev 01 site/overseas site WP	Metallic Material	
	ISO 148-2: 2016 ASTM E23: 2018	(Up to 450J)	
	ASTIM E23. 2016	Center Of Percussion	0.01%
		Potential Energy	0.11%
		Error in Indicated Energy	0.02%

Schedule



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	METHOD	MEASURED QUANTITIES / INSTRUMENTS / RANGE TO BE CALIBRATED	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
В.	Velocity		
	ZRSG-02-WP003 Rev 01: site/overseas site WP	Material Testing Machine crosshead/actuator speed	
	ASTM E2658	0.5 to 1000mm/min	0.000257mm/min
C.	Extrusion Plastometers		
	ZRSG-02-WP002 Rev 01 site/overseas site WP	Load Up to 21.6kg	0.15%
	ISO1133-1 ISO1133-2 ASTM D1238-20	Temperature Up to 390°C	0.061°C
		Displacement Up to 50mm	0.003mm
		Time	0.258s

^{*}CMC is expressed as an expanded uncertainty estimated at a level of confidence of approximately 95 %.

Note: Overseas Site calibration performed under ZwickRoell Pte Ltd legal entity with supervision from Singapore laboratory.

Approved signatories:

Matthew Smith) for A, B, C Radin Fadzakir)

Jeremiah Espiritu) A & C Tan Kai Yi Alex)

Note:

This laboratory is accredited in accordance with the recognised In ternational Standard ISO/IEC 17025. A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001.