

Engineering Report 63647-1

Water Immersion Test

for

Contractors Materials Company

Prepared by



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Approved by



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Revision history

Revision	Total pages	Date	Description
--	12	November 28, 2022	Original

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1.0 Administrative data

Prepared for	Contractors Materials Company 10320 S Medallion Drive Cincinnati, OH 45241	
Attention	Rob Faircloth	
Test performed	Water immersion Test	
Test facility	Element Materials Technology 9725 Girard Avenue South Minneapolis, MN 55431	
Item(s) tested	Joint Jockey	
Part number(s)	River Tripper Long	River Tripper Short
Serial number(s)	N/A	
Sample identifier(s)	63647-UUT1 63647-UUT2	63647-UUT3 63647-UUT4
Primary specification(s)	IEC 60529, Edition 2.2, paragraph 14.2.7 (IPX7)	
PO number	jointjockey1	
Purchase date	10/27/2022	
Element test report number	63647-1	
Project start date	11/14/2022	
Project completion date	11/14/2022	
Test report completion date	11/28/2022	
As received	This document describes procedures and results of testing performed to the specification(s) and/or requirement(s) detailed herein. The results described in this report relate only to the specific items as received and tested.	
Decision rule	Whenever stating in/out of tolerance or pass/fail results, Element applies "Simple Acceptance"; statements of compliance do not consider measurement uncertainty.	

2.0 Instrumentation, procedure, and results

2.1 Instrumentation

All instrumentation is calibrated regularly by instruments directly traceable to the National Institute of Standards and Technology, and in accordance with *ANSI/NCSL Z540.1*, *ANSI/NCSL Z540.3-2006* and *ISO/IEC 17025: 2017*.

Table 2-1: Instrumentation list

Equipment Number	Description	Manufacturer	Model Number	Last Calibration	Due Calibration	Range
200-322	Digital Thermometer	Fluke	52 II	10/12/2022	10/12/2023	-200°C to +1372°C Type K; -250°C to +400°C Type T
400-094	Stopwatch	Extech Instruments	365510	7/13/2021	7/13/2023	0 to 23 hrs, 59 mins, 59 sec
770-080	Measuring Tape	Starrett	TX1-26ME	1/27/2022	1/27/2023	0 to 26 FT/ 8M

2.2 Procedure

The test units were subjected to Water Immersion Testing as outlined in Document *IEC 60529*, Edition 2.2, paragraph 14.2.7 (IPX7). Refer to Appendix A for test details.

2.3 Results

No visible damage found, and no water intrusion found upon visual inspection. Refer to Appendix A for data, figures, and photographs.

The test units were returned to Contractors Materials Company.

Appendix A: Water Immersion Test



Data sheet

Water Immersion

Company name	Contractors Materials Company	Performed by	Randy Taklo
Project number	63647-1	Specification	IEC 60529, Edition 2.2, paragraph 14.2.7 (IPX7)
DUT description	Joint Jockey	Test date(s)	11/14/2022

Device under test information			
Description	Model / part number	Serial number	Sample identifier
Joint Jockey	River Tripper Long	N/A	63647-UUT1
		N/A	63647-UUT2
	River Tripper Short	N/A	63647-UUT3
		N/A	63647-UUT4

Equipment list					
200-322	400-094	770-080			

IPX7 Test conditions		
Requirement	Actual	
Temperature = water and test unit shall not differ by >5 Kelvin	Water temperature = 17.4°C	Test unit temperature = 14.2°C
Immersion level = 1m below surface of water (for DUT height <850 mm) or 150 mm (for DUT height ≥850 mm)	1m below surface of water	
Duration = 30 minutes	30 minutes	
Additional instructions:		

Test log
Test unit was subjected to the test conditions specified above.
After completion of exposure, the test unit was visually inspected for water intrusion.

Results / comments
Visual inspection upon completion of the test revealed:
<input checked="" type="checkbox"/> No water penetration.
<input type="checkbox"/> Water penetration was found (describe here):
<input type="checkbox"/> Other (describe here):
No visible damage found. No water intrusion found.

DUT disposition	<input type="checkbox"/> Retained at Element	<input checked="" type="checkbox"/> Returned to customer	<input type="checkbox"/> Other (describe):
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Data sheet

Water Immersion

Company name	Contractors Materials Company	Performed by	Randy Taklo
Project number	63647-1	Specification	IEC 60529, Edition 2.2, paragraph 14.2.7 (IPX7)
DUT description	Joint Jockey	Test date(s)	11/14/2022



Photograph A-1: Test unit identification



Photograph A-2: Units set up on fixture

Data sheet

Water Immersion

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DUT description	Joint Jockey	Test date(s)	11/14/2022



Photograph A-3: Unit temperature

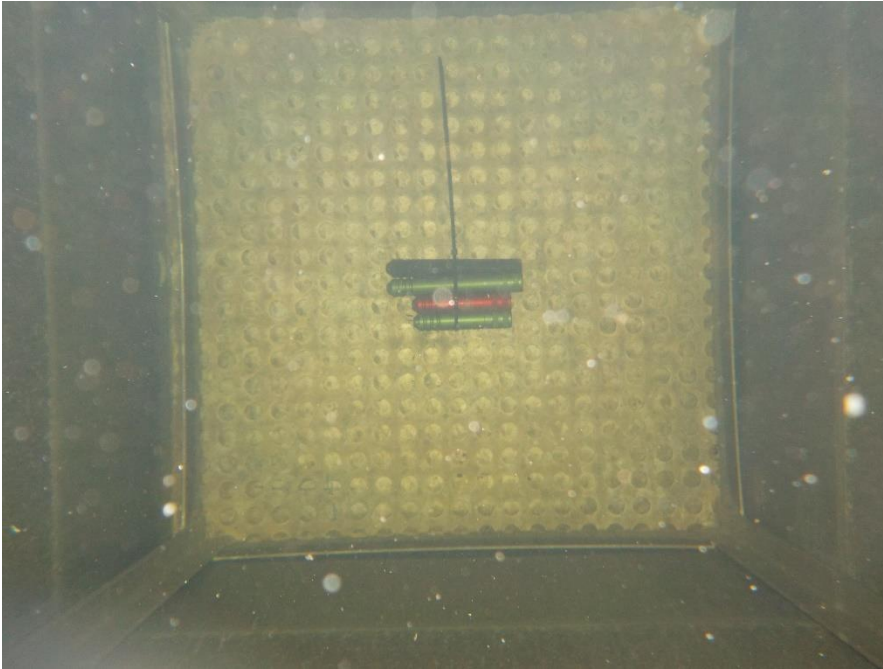


Photograph A-4: Water temperature

Data sheet

Water Immersion

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DUT description	Joint Jockey	Test date(s)	11/14/2022



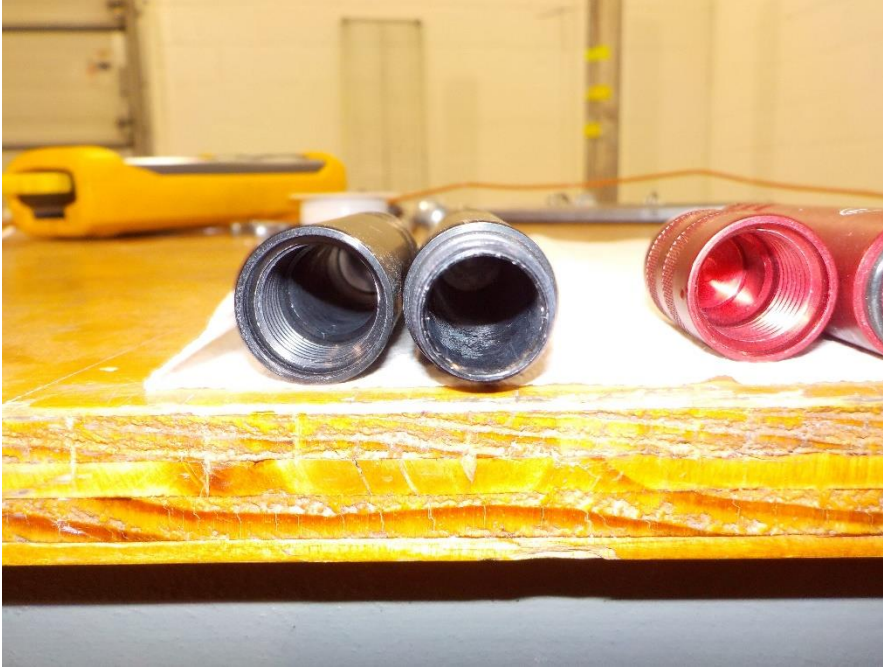
Photograph A-5: Units during immersion



Photograph A-6: Post test view of units

Data sheet
Water Immersion

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Photograph A-7: Post test view of units



Photograph A-8: Post test view of units

Data sheet

Water Immersion

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Photograph A-9: Post test view of units



Photograph A-10: Post test view of units