



CRT LABORATORIES, INC.

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ASTM Physical & Mechanical • Chemical-Thermal Analysis • IAPMO Cell Class
Geosynthetic Materials • Plumbing & Faucet Assemblies • Resin & Finished Product Testing

ISO-9001-2015

ISO 9001



Committed to Quality

TEST REPORT

PAGE 1 OF 2

FOR: Christle Limited
18 O'Meara Ind. Estate, Arima, Trinidad WI
PO Box 5020, Trinidad West Indies
Tel: (868) 646-7640 / Fax: (868) 646-7641
ATTN: Lauren Singh

LWR NO: 20167 DATE: Sept. 26, 2016

BACKGROUND: Client submitted one (1) sample of CPVC Solvent Cement for testing (ID shown below). The sample was received on 08/19/2016 via customer-supplied courier. Visual inspection was performed on 08/19/2016 and no product defects were noted. Testing in accordance with client email received on 08/15/2016. The following additional information is shown below:

CRT order entry log date: 08/19/2016 / **Report due date:** 09/26/2016

SAMPLE ID: Christle CPVC Solvent Cement

PREPARATION: **Conditioning** – ASTM D618-13, 40 h in a standard laboratory environment
Dissolution Compound – previously acquired CPVC base powder stock for CPVC solvent cements

TEST PROCEDURES: **Solvent Cement for CPVC Plastic Pipe and Fittings - ASTM F493-14 (Vol.: 8.04 2016):**

- Free Flowing** – section 4.3, in conjunction with section 5.2
- Gelation** – section 4.4, in conjunction with section 5.2
- Resin Content %** – section 5.1, minimum = 10%
- Dissolution** – section 5.2, minimum = 3%
- Viscosity** – section 5.3, in conjunction with method-B of ASTM D1084-16 (10rpm)
- Shelf-Stability** – section 5.4, 30 days @ 120°F
- Hydrostatic Burst Strength (Psi)** – section 5.5, in conjunction with section 6.3
- Hydrostatic Sustained Pressure Strength (Psi)** – section 5.6, in conjunction with section 6.4
- Markings & Identification** – sections 10.1 - 10.1.8.3

TEST RESULTS: The results of testing are reported in data table one (1), attached.

CONCLUSION: Based on the results of testing, the sample submitted meets all performance requirements prescribed by ASTM F493-14 (Vol. 8:04 2016)...**Complies**

Specimen Retain Bin: BB (30 day hold only, unless otherwise noted)

CRT LABORATORIES, INC.

IAPMO R&T  ISO 9001:2008 Certified – Registered / ISO-IEC 17025:2005 Accredited

Ken A. Le Jeune
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Laboratory Technician



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TABLE 1

SAMPLE ID: Christle CPVC Solvent Cement
SPECIFICATION: ASTM F493-14 (Vol.: 8.04 2016)

(4.3) FREE FLOWING

Based on initial inspection of the sample, it appears to be very free flowing with no un-dissolved particles noted...*Complies*

(4.4 & 5.2) DISSOLUTION

Dissolution testing was performed on this sample by weighing 196 grams of the solvent cement sample and adding 5.88 grams of CPVC base powder resin (3% ratio base for solvent) and stirring @ a rate of 1,050 RPM for 1 hour. The CPVC resin completely dissolved and showed no signs of gelation. In addition, the cement was free flowing and had no evidence of lumps, un-dissolved particles, or any foreign matter that would have adverse effect on the quality or performance of the CPVC cement...*Complies*

<u>(5.1) RESIN CONTENT %</u>	<u>INERT FILLER %</u>	<u>MIN. RESIN %</u>	<u>(5.3) VISCOSITY</u>
16.84 / <i>Complies</i>	0.86 / <i>Complies</i>	10	833 (kinetic) / <i>Complies</i> (min = 500cPs) Medium bodied

(5.4) SHELF-STABILITY

The cement in the container in which was supplied, does not show signs of gelation or stratification by stirring after being aged 30 days @ 120°F...*Complies*

(5.5) HYDROSTATIC BURST

One (1) test assembly for each condition specified in Table 1 was set up and tested in accordance with section 6.3. No leakage or separations at any of the joints were noticed when a pressure was applied...*Complies*

73°F (min. 400 Psi)	180°F (min. 200 Psi)
660 / <i>Complies</i>	330 / <i>Complies</i>

(5.6) HYDROSTATIC SUSTAINED PRESSURE STRENGTH

One (1) test assembly was set up and tested in accordance with section 6.4. No leakage or separations at any of the joints were noticed when water pressure was applied...*Complies*

Test condition A	Test condition B
180°F	180°F
(521 psi / 6 min.)	(364 psi / 4 h)
521 / <i>Complies</i>	364 / <i>Complies</i>

(10) MARKINGS & IDENTIFICATION

ASTM F493 was confirmed on the label with complete verification of the products quality and intended use. In addition, the manufacturers name, trademark, and hazardous information were legibly printed on the can.

The following marks are present: Christle® Solvent Cement for PVC / CPVC Pipes & Fittings (Hot /Cold Water) 500 mL ASTM F493 Lot#063164 22:11 Barcode 6744004260038...*Complies*

The liability of CRT Labs with respect to the work and report covered herein, shall in no event exceed the amount of the invoice. We recommend consideration that correlative data be generated by other laboratories in matters of litigation. CRT will retain tested samples for 30 days after testing is completed, unless other arrangements are agreed upon at the time order is placed. This report, whether in whole or in part, any logo, etc., in advertising or publicity must have CRT's written permission prior to use. This test data is for exclusive use of the client to who it is addressed and results apply only to sample(s) tested and does not apply to similar or identical products. This report shall not be reproduced except in full. Testing performed in accordance with ISO 17025. Form Q.S. 43 (10/05)