



WESTERN FIRE CENTER, INC.

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Fire Testing of Wood Fencing

Conducted For:

Chemco Inc.

**4191 Grandview Rd
Ferndale, WA 98248**

&

Safer Building Solutions

**PO Box 168
Clarksburg, CA 95612**

WFCi Report #25060

Test Dates: August 27, 2025

Report Issued: September 25, 2025

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INTRODUCTION

This report documents a fire test of wood fencing material for Chemco Inc and Safer Building Solutions, generally following testing performed by NIST/IBHS. A fire was started at the base of a fence with two different materials, and flame propagation along the fence was monitored.

SUMMARY OF TEST METHOD

This fire test procedure consisted of a 10' fence sample (6' tall, Figure 1), where the ignition source was placed at the base of the center of the fence. A bed (2' deep $\times$ 4" tall) of wood chip mulch was placed along the base of the fence (10' long) to allow for flame propagation along the base of the fence.

The initial ignition source consisted of an excelsior bed (740 g, $\sim$ 2' wide $\times$ 1' tall $\times$ 16" deep). Just before the beginning of the test, 8 oz of ethanol was poured over the excelsior, and $\frac{1}{2}$ cup of poured in a line across each wood chip mulch bed. At time zero, the excelsior was ignited with a torch. At 30 s into the test, a wind source (3' diameter commercial fan, 2.1 m/s) was applied to the fence and mulch bed. The flames were allowed to propagate both directions of the fence for up to 30 min when the fan was turned off. The fence test was run another 2 min (32 min total) before test termination.

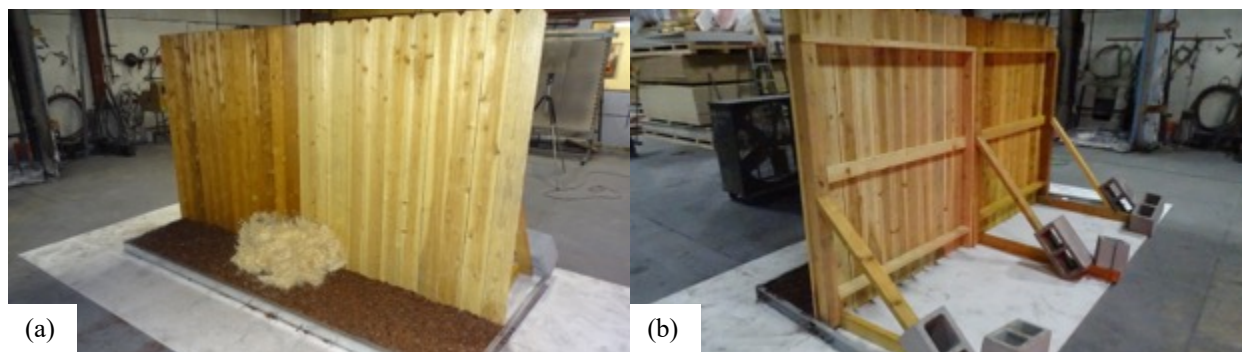


Figure 1. Fence test setup showing (a) front and (b) back.

SAMPLE DESCRIPTION

The 10' cedar fence consisted of two different materials, 5' of treated cedar to the west and 5' of regular, untreated cedar to the east. Specific details are proprietary to the client. The base of the fence was positioned at ground level with the wood chip mulch bed was stacked 4" high along the base of the fence.

TEST RESULTS

The test was performed on August 27, 2025 by WFCi personnel. Individual observations are detailed for each test below.

Test 1

Test Date & Time: 8/27/25, 10:30 AM (23°C, 66%)

Test Apparatus: Under large-scale hood

Table 1. Observations from fence Test 1.

Time (mm:ss)	Event
00:00	Start test – ignition of excelsior bed (previously poured ethanol)
00:30	Fan (2.1 m/s) turned on
01:30	Glowing on east (untreated) fence in joints
02:50	Flames on base of east fence
05:45	Flames to 4 th east board
10:00	Open/broken section of east fence
12:45	Flames to 6 th east board
16:45	Flames to 9 th east board
18:30	Flames to end of east fence
23:00	Most of east boards broken
25:00	Mulch at the base of fence glowing at west fence up to 3 rd board
30:00	Fan turned off
32:00	Terminate test – extinguished





Figure 2. Test 1 showing (a) ignition – 0 min, (b) fan on – 30 s, (c) burning east board – 6 min, (d) open section – 11 min, (e) flame propagation – 18 min, (f) near end of test – 29 min, (g) after test, and (h) back of fence.

SUMMARY

The two fence sections were fire tested with a single initial ignition source placed at the center of the fence, and the flames were allowed to propagate to either or both sections. Flames propagated along the untreated section of the fence within approximately 18 min. Flames did not propagate significantly along the treated section of the fence for the duration of the 32 min test.

SIGNATURES

Testing performed by,



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Technical Director

Reviewed and approved by,



Mike White

Laboratory Manager

WESTERN FIRE CENTER AUTHORIZES THE CLIENT NAMED HEREIN TO
REPRODUCE THIS REPORT ONLY IF REPRODUCED IN ITS ENTIRETY

The test specimen identification is as provided by the client and WFCi accepts no responsibilities for any inaccuracies therein. WFCi did not select the specimen and has not verified the composition, manufacturing techniques or quality assurance procedures.

Version	Date Issued	Document Number	Changes
Original	September 25, 2025	25060	Original report