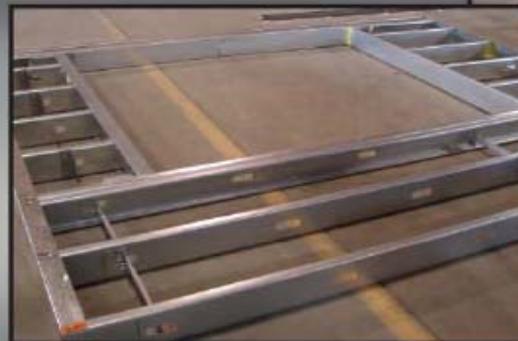




## CFSC QC WALL PANEL 1.0

**Dedicated to  
Building Quality  
Panels**



# What is CFSC QC Wall Panel?

- The **CFSC QC Wall Panel** program is a voluntary, in house program developed by CFSC to help manufacturers monitor the quality of wall panels they manufacture.



# Goals of CFSC QC Wall Panel Program

- Main goal of Program:

“To implement an in-plant quality management program for wall panel manufacturers.”

- Additional goals:

- Objective tool to evaluate quality plant-wide.
- Voluntary use and/or certification.
- Show your plant is proactive with quality.



# How Does It Work?

1. Inspecting wall panels.
2. Recording the information on paper inspection forms.

## CFS Wall Panel Inspection Form

Frequency: 3 Wall Panels Per 1000  
Lineal Feet / Per Shift / Per Week

Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Inspector: \_\_\_\_\_  
Line: \_\_\_\_\_  
Shift: \_\_\_\_\_  
Crew: \_\_\_\_\_

Job Number: \_\_\_\_\_  
Panel Number: \_\_\_\_\_  
Panel Type:  EXTERIOR  
 INTERIOR  
 SPECIAL\*  
Inspection Number: 1 2 3 4 5 6 7 8 9 10 (please circle)

\*A special wall panel is taller, sloped, wider, etc.

### Dimensions

- 1) Do overall dimensions conform to the drawing? (length and height within 1/8") yes no

Note: Information on the right side such as dimensions is required.

- 2) Is square of wall within 1/8" of drawing? yes no N/A

### Studs and Tracks

- 3) Do all sections conform to the drawing? (length, width, type, material, thickness, depth, coating) yes no
- 4) Is quality of steel visually acceptable? (ding, dent, rip, puncture, hole, crack, rust, bow, twist) yes no
- 5) Are stud knockouts correct? (holes line up correctly, are not within 10" edge of stud) yes no
- 6) Are gaps between stud and track within 1/8"? yes no

### Headers

- 7) Are header lengths within -0+1/8" of drawing? yes no N/A
- 8) Are header heights and depths within +0-1/8" of the drawing? yes no N/A
- 9) Are headers square (within plane of wall)? yes no N/A
- 10) Is the header type and material correct? yes no N/A

### Window and Door Openings

- 11) Are rough opening dimensions within -0+1/8" of the drawing? (length, height, square) yes no N/A
- 12) Are sill track heights within 1/8" of drawing? yes no N/A
- 13) Proper number of cripples below windows? yes no N/A

### Placement

- 14) Does stud placement and orientation match the drawing? yes no
- 15) Do top/bottom tracks match the drawing? (overhangs, overlap gaps, web stiffeners, clips) yes no
- 16) Does bracing and blocking match drawing? (CRC, lateral strapping, x-bracing, bridging, flat stock) yes no N/A

### Fastening

- 17) Is fastener pattern and spacing correct? (front & back of stud, multiple studs, headers) yes no
- 18) Are fasteners tight and not stripped? (screws should have a minimum of 3 threads showing) yes no
- 19) Are correct type and size fasteners used? (self drilling tapping screws, rivets, clinching) yes no
- 20) Do all welded connections conform to the specs? yes no N/A
- 21) Is all bracing fastened correctly? yes no N/A

### Sheathing

- 22) Is sheathing placement and offset correct? (setbacks, overhangs, panel square) yes no N/A
- 23) Is field/edge fastener pattern/spacing correct? yes no N/A
- 24) Are fasteners tight and not stripped? yes no N/A
- 25) Are correct sheathing materials used? yes no N/A
- 26) Are correct fasteners used? yes no N/A
- 27) Is house wrap applied correctly? yes no N/A

Overall Dimensions (ft-in-10th)		
Component	Specified	Actual
Length		
Height		

If answer is no, record specific cause and remedy

Identification (e.g., 600 S 162-54)		
Section	Specified	Actual
S = Stud		
T = Track		

Header Dimensions (ft-in-10th)		
Component	Specified	Actual
Length		
Height		
Depth		

Rough Opening Dimensions (ft-in-10th)		
RO Length	Specified	Actual
RO Height		
Sill Track Height		

Stud Spacing (ft-in)	
Specified	Actual

Fasteners Per Stud (e.g., 2 per 2x4)	
Required	Actual

Fastener Spacing Pattern (in)		
Component	Specified	Actual
Field		
Edge		

Initials verifying that errors have been corrected: \_\_\_\_\_



# How Does It Work?

## 3. Entering the data into the database program to store inspection data.

CFSC QC Wall Panel - [Wall Panel Inspection Form]

Inspection

**Wall Panel Inspection Form**     **Select Inspection:** 05/12/09 10:25 a

Date: 05/12/2009 Job Number: Jackson 11 Comments  
 Time: 10:25 am Panel Number: W57X  
 Inspector: Jim Panel Type: Exterior  
 Line: Line 1 Inspection Number: 3  
 Shift: First  
 Crew: Crew 1 Initials - Errors Fixed:

Dimensions / Studs and Tracks / Headers | Window and Door Openings / Placement | Fastening / Sheathing

**Dimensions**

1) Do dimensions conform to the drawing?  

Component	Specified			Actual				
Length	10	' 0	" 0	/16	10	' 0	" 0	/16
Overall Height	15	' 5	" 0	/16	15	' 5	" 0	/16

2) Is square of wall within 1/8" of the drawing?

**Studs and Tracks**

3) Do all sections conform to the drawing?  

Identification	Specified	Actual
Stud	600 T 12554	600 T 12554
Track	600 S 16254	600 S 16254

4) Is quality of steel visually acceptable?

5) Are stud knockouts correct?

6) Are gaps between stud and track within 1/8"?

**Headers**

7) Are header lengths within -0+1/8" of drawing?  

Component	Specified			Actual				
Length	6	' 3	" 0	/16	6	' 3	" 0	/16
Height	0	' 6	" 0	/16	0	' 6	" 0	/16
Depth	0	' 6	" 0	/16	0	' 6	" 0	/16

8) Are header heights and depths within +0-1/8"?

9) Are headers square (within plane of wall)?

10) Is the header type and material correct?



# How Does It Work?

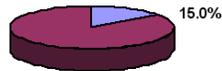
## 4. Creating reports from the database to evaluate the quality of the manufacturing process.

### WALL SUMMARY REPORT

Selected Dates: 5/11/2009 through 6/5/2009

#### OVERALL INSPECTIONS

Wall Panels  
 Total Number Inspected: 20  
 Number Out of Conformance: 3  
 % Out of Conformance: 15.0%



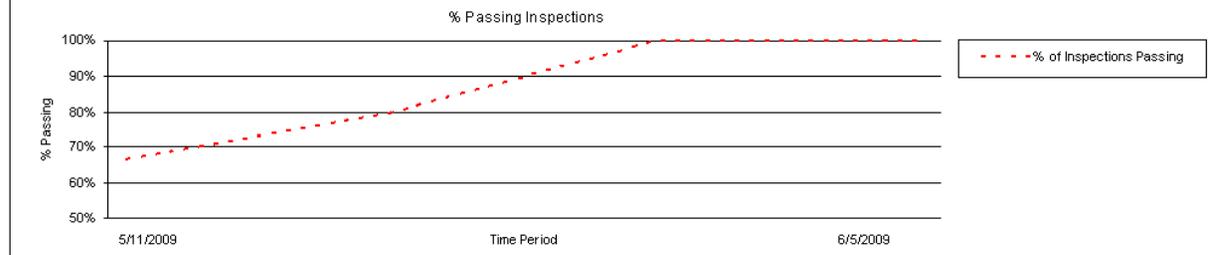
Average Score: 99.4%  
 (out of 27 questions  
 for each wall panel)

Breakdown (% based on 20 total inspections)			Breakdown (% based on 20 total inspections)		
Type	#	% of All	Type	#	% of All
Overall Dimensions:	0	0.0%	Header Materials:	0	0.0%
Square of Wall:	0	0.0%	Rough Openings:	0	0.0%
Section Type:	0	0.0%	Sill Plate Heights:	0	0.0%
Quality of Steel:	0	0.0%	Window Cripples:	0	0.0%
Stud Knockouts:	0	0.0%	Stud Placement:	0	0.0%
Member Gaps:	1	5.0%	T/B Track Placement:	0	0.0%
Header Lengths:	0	0.0%	Blocking/Bracing:	0	0.0%
Header Height/Depth:	0	0.0%	Fastener Pattern:	0	0.0%
Square Headers:	0	0.0%	Fasteners Tight:	0	0.0%
			Correct Fasteners:	0	0.0%
			Welds Conform:	0	0.0%
			Bracing Fastened:	0	0.0%
			Sheathing Placement:	0	0.0%
			Sthg Fastener Pattern:	0	0.0%
			Sthg Fastnr Embdmt:	0	0.0%

### WALL WEEKLY SUMMARY REPORT

Selected Dates: 5/11/2009 through 6/5/2009

Date	Total Inspections		Dimensions		Studs and Tracks			Headers				Openings			Placement			Fastening				Sheathing				Avg Score						
	Panels	Out	% Out	Overall	Square	Type	Quality	Knock	Gaps	Length	Depth	Square	Meters	Open	Sills	Crips	Studs	Plates	Brace	Pattern	Embed	Fasten	Weld	Brace	Place		Pattern	Embed	Mats	Fasten	Wrap	
5/11/2009	6	2	33%	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	98.8%
5/18/2009	5	1	20%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	99.3%
5/25/2009	4	0	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.0%	
6/1/2009	5	0	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.0%	



# Inspection Frequency

- The inspection frequency depends on the production volume at the plant. The inspection frequency is 3 wall panels per 1000 lineal feet of production / per line / per shift / per week.
- Example: A plant's typical production is 4000 total lineal feet each week.  $4000 \text{ total lineal feet} / 1000 = 4 \times 3 = 12$  required inspections each week.



# Inspection Basis

- Wall panel manufacturers will focus on seven main areas:
  - Dimensions
  - Studs and Tracks
  - Headers
  - Window and Door Openings
  - Placement
  - Fastening
  - Sheathing



# Inspection Process

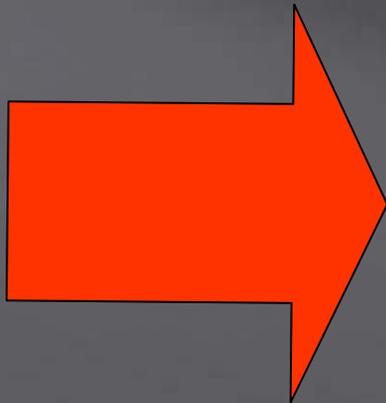
- Inspection Process Flow:
  - Check length and height
  - Check square of wall
  - Check studs and tracks: type and materials
  - Check quality of steel
  - Check header length, height, and depth
  - Check header and window and door opening materials
  - Check rough opening, sill plate heights, and window cripples
  - Check stud placement and orientation, top and bottom plates
  - Check bracing and blocking
  - Check fasteners, fastener pattern, spacing, and tightness
  - Checking sheathing placement and offset
  - Check sheathing fastener pattern, spacing, and embedment
  - Check sheathing materials and fasteners
  - Check for house wrap



green items  
only exteriors

# Key Formula of CFSC QC Wall Panel

*Continuous  
Improvement!!*



Performing Inspections  
+  
Building A Quality Focused  
Environment  
+  
Focus On Training  
+  
Equipment Checks

=

*Improvement In Quality In  
Terms Of Product And  
Process*



# Bottom Line for Plant

- Better product at the jobsite
- Reduced or zero callbacks and repairs
- Opportunity to build strong relationships with customers
- Ability to set your plant apart from others
- Possibility to reduce insurance premiums
- QC reports give management a tool to evaluate quality level over time or by crew
- QC inspector/inspections help pinpoint/facilitate training needs
- Tool to increase plant morale/pride/ownership among employees



# How Can You Get Going?

The screenshot shows a web browser window titled "CFSC QC Wall Panel Program - Windows Internet Explorer". The address bar shows the URL "http://cfsc.sbcindustry.com/qcwall.php". The website header includes navigation links for "Hiring", "Legislative", "SBC Association", "SBC Mag.", "Testing", and "Trade Show". The main content area features the "SBC Cold-Formed Steel Council" logo and a section for the "CFSC QC Wall Panel" program. A sidebar on the left contains a menu with items like "Home", "About CFSC", "Committees", "Green Building", "Membership", "Programs & Products", "Technical Info", and "CFSC Order Form". At the bottom, there are promotional banners for "CFSC QC Wall Panel Program Demo" (7 min.) and "Program Support Documents" (including inspection forms and manuals) with a price tag of \$150.00 and a starburst indicating a \$300.00 upgrade. A "CLICK HERE TO ORDER NOW" button is also present.

- Visit the CFSC website, download free inspection forms...

[cfsc.sbcindustry.com/qcwall.php](http://cfsc.sbcindustry.com/qcwall.php)



# How Else Can You Get Going?

- Consider purchasing the **CFSC QC Wall Panel** database program.
  - \$300 for the program, \$150 for additional copies or for multiple plants within the same company.
- Work towards certification with CFSC.
- Remember CFSC is a resource to help you.



# Steps To Certification

- **CFSC QC Wall Panel** offers a voluntary certification.
- There are 5 major steps to certification.
  1. Be a member of CFSC.
  2. Purchase CFSC QC Wall Panel.
  3. Carefully read the manual and have your inspector meet with a wall designer on how to read the drawing.
  4. Perform inspections at the required weekly inspection frequency and enter the data for one month.
  5. Send data file to CFSC for review.



Note: CFSC will require a minimum of two monthly data reviews before a plant can be certified.

# Certification Details

- It will take your plant a minimum of 2 months after receiving the program to get certified if they are diligent.
- Costs include: purchasing the QC program and the annual certification fee for CFSC to review your data and make program updates.

Length of Certification	Annual Fee	Quarterly Fee	Monthly Fee
Pre-Certification	\$540	\$135	\$45
Year 1 of Certification	\$540	\$135	\$45
Year 2 of Certification	\$480	\$120	\$40
Year 3 of Certification	\$420	\$105	\$35
Year 4 and beyond	\$360	\$90	\$30



# Certification Timeline Example

- XYZ Components purchased **CFSC QC Wall Panel** program 8/1/2008
- Reviewed manual and practiced inspections until 9/1/2008
- Data sent and reviewed by CFSC 10/1/2008
- Data sent for 2nd review 11/1/2008
- XYZ Components was certified on 11/2/2008
- Additional comments:
  - 22.5% and 17.6% out of conformance inspections in the 2 monthly reviews prior to certification.
  - Once certified your plant must send data at each quarter based on the calendar year.



# Any Questions?

- Contact:
  - Tony Piek  
608/310-6713  
[tpiek@qualtim.com](mailto:tpiek@qualtim.com)

