Replacement Storefronts

Learning from Historic Examples

Improving Durability
Finding Compatibility Through History

- Overall composition and its relationship to the building
- Size and weight of framing elements
- Division of glass: transoms, muntins
- Materials
Openings in a wall
Structural frame aligning with wall above
Entire façade as frame
Storefront as independent composition
Cast iron: Structure located by storefront plan but separated from the glazed wall
Cast iron: Frame and supports integrated into the glazed wall
Masonry supports with wood facing
External independent structure
Steel enabled clear spans
Frame disappears
Simple steel supports subordinate to glazing
Glass size and framing, muntins and transoms
Transoms
Ventilation
Light
DETROIT SHOW CASE CO.
Corner Posts and Transom Bars
DETROIT, MICHIGAN

PRODUCT.
Manufacturers of the “Pezz” Corner Post and Transom Bar for setting plate glass. (John Peetz, Patentee.)

“Pezz” Corner Posts and Transom Bars are handled by the following warehouses of the Pittsburgh Plate Glass Co.:

- New York City, N. Y., Rink and Vandal St.
- Boston, Mass., 94-96 Faneuil Hl.
- Chicago, Ill., 237 Wabash Ave.
- Cincinnati, O., Broadway and Court St.
- St. Louis, Mo., 500 E. 10th St.
- Minneapolis, Minn., 200-202 E. Third St.
- Denver, Colo., 112 E. 11th St.
- St. Paul, Minn., 424-426 Wabasha St.
- Milwaukee, Wis., 534 Market St.
- Baltimore, Md., 203-205 W. Pratt St.
- Savannah, Ga., 221-223 W. Congress St.
- Kansas City, Mo., 10th and Wyandotte St.

ADAPTABILITY.
For store fronts and for all conditions where the strongest, most compact and attractive corner posts and transom bars are desired, specify the “Pezz.” Samples of any style or finish are sent free on request.

CONSTRUCTION.
The outer core is made of cypress with a heavy metal cover tightly drawn over and clinched at both sides. (Figs. 1, 2, 3.) The inner core is reinforced by a heavy steel bar extending the full length and turned over at each end so that it may be screwed to the frame-work of the building.

The outer or metal covered core may be easily removed by taking out the screws and the glass may be set from the outside.

The “Pezz” Corner Posts (Figs. 1 and 2) and Transom Bars (Fig. 3) are made in many styles and finishes, to cover every possible need of contractor or builder. Copper, brass, bronze, German silver, nickel-plated, oxidized copper, antique brass and gun-metal are the regular finishes.
Base
Assessing the building and developing a strategy

• Identify the history of changes
• Preserve and repair salvageable historic material
• Understand structural opportunities and limitations
• Accommodate current functions
Respect “Period of Significance”
Value authentic material
Limitations to restoring design
Damage from changes may limit possibilities
Minimize visual impact of safety and technical limitations
Choose a durable species if using wood

<table>
<thead>
<tr>
<th>Wood</th>
<th>Decay Resistance</th>
<th>Paint-Holding Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1 best; 4 worst)</td>
<td>(1 best; 5 worst)</td>
</tr>
<tr>
<td><strong>Softwood</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cypress</td>
<td>2 - 3</td>
<td>1</td>
</tr>
<tr>
<td>Douglas-fir</td>
<td>3</td>
<td>2 (4 oil)</td>
</tr>
<tr>
<td>Eastern white pine</td>
<td>3 - 4</td>
<td>2</td>
</tr>
<tr>
<td>Ponderosa pine</td>
<td>4</td>
<td>2 (3 oil)</td>
</tr>
<tr>
<td>Redwood</td>
<td>2 - 3</td>
<td>2</td>
</tr>
<tr>
<td>Spruce</td>
<td>4</td>
<td>2 (3 oil)</td>
</tr>
<tr>
<td>White fir</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Western hemlock</td>
<td>4</td>
<td>2 (3 oil)</td>
</tr>
<tr>
<td>Western red cedar</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Southern yellow pine</td>
<td>4</td>
<td>3 (4 oil)</td>
</tr>
<tr>
<td><strong>Hardwood</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birch</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Black locust</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cherry</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Eastern cottonwood</td>
<td>4</td>
<td>2 (3 oil)</td>
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<tr>
<td>Elm</td>
<td>4</td>
<td>5 (3/filler)</td>
</tr>
<tr>
<td>Gum</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Maple</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Northern red oak</td>
<td>3 - 4</td>
<td>5 (4/filler)</td>
</tr>
<tr>
<td>Walnut</td>
<td>2</td>
<td>5 (3/filler)</td>
</tr>
<tr>
<td>White oak</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Yellow poplar</td>
<td>4</td>
<td>2 (3 oil)</td>
</tr>
</tbody>
</table>
Compensate for a material’s weakness
Keep water out
Let water out
Potential problem?
end grain, End Grain, ENDGRAIN
Varnish is a high maintenance finish in all but the most protected areas.
Minimum requirements for replacement:

- Visual match
- Compatible physical properties
Successful use of non-traditional and synthetic materials

• Accommodate thermal and moisture related expansion and contraction that is unique to the material.
• Use manufacturer-recommended fasteners and adhesives
• Maintain needed finishes
Building a compatible new feature

- General visual characteristics of traditional material

Reasons to consider a substitute:

- Poor performance of historic material
- Equivalent historic material not available
- Improved durability of alternative
- Cost - material, fabrication, installation
Fiber reinforced polymer composites, FRP
(cornices, carved elements,)

• May be paintable, UV sensitive without an integral finish
• Custom molds and standard shapes
Glass fiber reinforced concrete, GFRC
(custom fabricated for stone, cast stone or terra cotta elements)

• Lighter weight than stone or terra cotta
• May depend on a surface finish for match
Cellular PVC
(mouldings, trim boards)

- Paintable: no dark colors
- UV resistant
- Density of pine
- Some brands can be milled
- Mouldings available
- Non-orthotropic movement
- Greater thermal movement than wood but less hygroscopic movement
Hi-density Polyurethane Foam
(ornament, moldings)

• Paintable, UV sensitive
• Slightly less dense than pine, thus easily damaged by impact
• Closed cell – not moisture sensitive
• Sometimes combined with polyethylene surface
• Mostly standard shapes
• Non-orthotropic
• Thermal movement
Wood-based Composites

Hardboard (*flat trim boards*)
- Resins binders
- Must be painted
- Will expand and swell with moisture
- Non-orthotropic
Fiber Cement
(boards & sheets)

- Prefinished or must be painted
- Flat boards ¾” and 1” plus limited molded profiles
- Non-orthotropic,
- Minor moisture-related movement
- Heavy