



**PRODUCT SERIES: LIBERTY**

**PRODUCT: LRF400 (FOR REMODELING AND NEW CONSTRUCTION; ARCHED FRAME & SASH DOUBLE HUNG WINDOW)**

**PRODUCT SPECIFICATIONS**

<p><b>FRAME</b></p>	<ul style="list-style-type: none"> <li>• Head and jamb frame pieces are constructed of 4/4 kiln dried western pine which are treated with a water repellant preservative to protect from rot and insects. Jamb and Head parts are glued, tenoned and nailed.</li> <li>• Sill, Blindstop and Brickmould are constructed from Western pine. Optional cPVC is available.</li> <li>• Frame thickness: 1 1/16" at jamb and head.</li> <li>• Standard Jamb Depth: 4-9/16"</li> <li>• Sill is 1-1/16" thick on a 9 degree angle and is designed for remodeling or new construction installation.</li> <li>• Available with optional foam wrap for air tight installation.</li> <li>• A continuous sill (up to 120") is used on mulled units.</li> </ul>
<p><b>SASH</b></p>	<ul style="list-style-type: none"> <li>• Silicone glazed from the interior for a positive water tight seal; sash joints are glued, tenoned and nailed from the interior.</li> <li>• Standard sash are of the finest quality kiln dried solid select 6/4 Western Pine treated with a water repellent preservative. Optional mahogany also available.</li> <li>• Operating bottom sash with locking pivot shoe tilt-in and can be removed for safe easy cleaning; Top sash fixed.</li> <li>• Sash profile dimensions are: stiles (1 3/4"), top rail (2 5/8"), bottom rail (3 1/4") and meeting rails (1 7/16").</li> <li>• A continuous sill (up to 120") is used on mulled units.</li> </ul>
<p><b>EXTERIOR FINISH</b></p>	<ul style="list-style-type: none"> <li>• Blindstop, Simulated Divided Light, Sill and optional Screen stop are manufactured from Western pine or mahogany (optional cPVC available) and are factory primed. Sash are of standard pine or optional mahogany.</li> </ul>
<p><b>INTERIOR FINISH</b></p>	<ul style="list-style-type: none"> <li>• Standard in unfinished natural wood in specified species that can be painted or stained.</li> <li>• Available factory primed or prefinished white (pine) optional mahogany available unfinished only. Contact TrimLine dealer for custom color details.</li> </ul>
<p><b>HARDWARE</b></p>	<ul style="list-style-type: none"> <li>• Sash lock and keeper are surface mounted cam action style.</li> <li>• Dual lock/lifts standard on units over 28" wide. Sash lifts standard at bottom rail.</li> <li>• Recessed E-Z tilt sash release latches for top and bottom sash tilting.</li> <li>• All hardware components are of zinc alloy in matching finish available in: almond, white, bronze, chrome, brass, antique brass and oil rubbed bronze.</li> </ul>
<p><b>BALANCE SYSTEM</b></p>	<ul style="list-style-type: none"> <li>• Concealed block and tackle system for smooth and effortless operation with locking cam action pivot shoes and never needs adjusting. AAMA 902-07 tested for over 28,000 cycles without failure.</li> <li>• Vinyl jambliner available in almond or white.</li> </ul>
<p><b>WEATHERSTRIPPING</b></p>	<ul style="list-style-type: none"> <li>• Head, bottom rail and meeting rail are weather sealed with almond color compression seal foam Q-Lon®; dual Fin-Seal® and Q-Lon® at vertical stile/jambliner, pile weatherstripping at the sill dam and Fin-Seal® dust plugs at meeting rails for low air-infiltration.</li> </ul>
<p><b>GLASS</b></p>	<ul style="list-style-type: none"> <li>• Standard clear 1 1/16" thick insulating glass, consisting of "double strength" 3mm annealed glass, 7/16" airspace using warm edge dual seal EnerEDGE silicone foam spacer, hermetically sealed with hot melt butyl.</li> <li>• All insulating glass units meets IGMA and NFRC 706 requirements for seal durability and gas retention as per ASTM E2190, E2188-10 &amp; E2189-10.</li> <li>• Other glazing options include ClimaGuard and ClimaGuard Plus Low E with argon gas, obscure, tempered, laminated, bronze or grey tint. Decorative glass also available.</li> </ul>

<p><b>INSECT SCREENS</b></p>	<ul style="list-style-type: none"> <li>• Standard Full screen of .019 thick roll formed aluminum; spring loaded plunger hardware system used to mount screen to exterior brickmould of window; crossbrace used on windows over 40" in height.</li> <li>• Optional interior sliding or fixed exterior half screen of .050 thick extruded aluminum.</li> <li>• Standard colors available: white, bronze, earthtone, beige, black and hunter green. Custom colors also available.</li> <li>• Charcoal fiberglass screen cloth (18 x 16 mesh) standard; optional screen mesh available in charcoal or aluminum color wire cloth or Better View<sup>™</sup> high transparency screening in charcoal cloth only.</li> </ul>																																																						
<p><b>GRILLES</b></p>	<ul style="list-style-type: none"> <li>• <b>Simulated Divided lites (SDL)</b> In a classic putty glazed 5/8", 7/8", 1", 1-1/4" or 1-1/2" wood (optional cPVC) muntin profile permanently applied to exterior of the insulated glass. Double faced tape is used to apply muntin to the glass which first is prepared with a saline type glass bonding and coupling agent before muntin is applied to help ensure lasting adhesion. An optional between the glass dark bronze shadow bar is available for an authentic true divided lite look. Interior wood in pine (standard) or mahogany matching the interior wood species in either permanent or removable style 5/8" or 7/8" wide divided lite patterns only. Removable style not available in 1", 1-1/4", 1-1/2" widths.</li> <li>• <b>True Divided lites (TDL):</b> Available in 1-1/8" width in pine only. TDL bar has the look of historically accurate true putty glazing.</li> <li>• <b>Removable wood grilles:</b> Available in 5/8" or 7/8" wide classic double stepped profile matching window interior wood species in pine (standard) or mahogany in a wide array of standard or custom divided lite patterns only.</li> <li>• <b>In-glass aluminum "GBG"</b> (grilles between the glass) muntins are available in 5/8" flat profile or 3/4" sculptured profile in all standard exterior cladding color finishes for dust free easy cleaning. Available in either divided lite or diamond patterns.</li> <li>• <b>Combo wood-aluminum:</b> 5/8" flat or 3/4" sculptured in-glass aluminum muntin with either permanently applied (see SDL) or removable wooden interior wood grille in pine (standard) or mahogany.</li> </ul>																																																						
<p><b>ACCESSORIES</b></p>	<ul style="list-style-type: none"> <li>• A standard zero clearance mull is used for factory mulling of windows without increasing the combined unit dimension of the windows mulled.</li> <li>• Optional 2", 4" and 6" exterior spread mullion covers are also available with internal support blocking; interior wooden mull covers in pine (standard) or mahogany as specified are provided loose.</li> <li>• 11/16" interior wooden jamb extension in pine (standard) or mahogany are factory applied to the perimeter of the window and are available in custom sizes to provide overall jambs depth up to 9".</li> <li>• Brickmoulds available in over a dozen different profiles.</li> <li>• Optional 1 3/4" historic sill.</li> </ul>																																																						
<p><b>WARRANTY</b></p>	<ul style="list-style-type: none"> <li>• Limited 10 year.</li> <li>• 20 years non-prorated on insulating glass.</li> <li>• Non-square, decorative/leaded glass 5 years.</li> </ul>																																																						
<p><b>PERFORMANCE</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="6" style="text-align: center;"><b>Thermal Ratings</b></th> </tr> <tr> <th style="text-align: center;"><u>Glazing</u></th> <th style="text-align: center;"><u>U-Value</u></th> <th style="text-align: center;"><u>R-Value</u></th> <th style="text-align: center;"><u>SHGC</u></th> <th style="text-align: center;"><u>V.T.</u></th> <th style="text-align: center;"><u>CRF</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Clear</td> <td style="text-align: center;">.45</td> <td style="text-align: center;">2.22</td> <td style="text-align: center;">.55</td> <td style="text-align: center;">.58</td> <td style="text-align: center;">43</td> </tr> <tr> <td style="text-align: center;">ClimaGuard</td> <td style="text-align: center;">.28</td> <td style="text-align: center;">3.57</td> <td style="text-align: center;">.28</td> <td style="text-align: center;">.50</td> <td style="text-align: center;">58</td> </tr> <tr> <td style="text-align: center;">ClimaGuard Plus</td> <td style="text-align: center;">.25</td> <td style="text-align: center;">4.00</td> <td style="text-align: center;">.27</td> <td style="text-align: center;">.48</td> <td style="text-align: center;">48</td> </tr> <tr> <td colspan="6" style="text-align: center;">           Clima Guard - 3mm RLE 7138 (#2) / Clear / Argon            Clima Guard Plus - 3mm RLE 7138 (#2) / IS-20 (#4) / Argon         </td> </tr> <tr> <th colspan="6" style="text-align: center;"><b>Structural Ratings</b></th> </tr> <tr> <th colspan="2" style="text-align: center;"><u>Test Specimen</u></th> <th style="text-align: center;"><u>Air Infiltration</u></th> <th colspan="3" style="text-align: center;"><u>Performance Class-Grade</u></th> </tr> <tr> <td colspan="2" style="text-align: center;">45 x 75-3/4 (1118 x 1924)</td> <td style="text-align: center;">0.14 cfm/ft<sup>2</sup></td> <td colspan="3" style="text-align: center;">LC-40</td> </tr> </tbody> </table>	<b>Thermal Ratings</b>						<u>Glazing</u>	<u>U-Value</u>	<u>R-Value</u>	<u>SHGC</u>	<u>V.T.</u>	<u>CRF</u>	Clear	.45	2.22	.55	.58	43	ClimaGuard	.28	3.57	.28	.50	58	ClimaGuard Plus	.25	4.00	.27	.48	48	Clima Guard - 3mm RLE 7138 (#2) / Clear / Argon Clima Guard Plus - 3mm RLE 7138 (#2) / IS-20 (#4) / Argon						<b>Structural Ratings</b>						<u>Test Specimen</u>		<u>Air Infiltration</u>	<u>Performance Class-Grade</u>			45 x 75-3/4 (1118 x 1924)		0.14 cfm/ft <sup>2</sup>	LC-40		
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<p><b>TEST STANDARD</b></p>	<ul style="list-style-type: none"> <li>• NFRC Certified: meets or exceeds rating and lableing requirements as per NFRC 100, 200 and 500 test procedures.</li> <li>• AMMA/WDMA/CSA 101/I.S.2/A440-05</li> </ul>																																																						