Use of Fire-Retardant or Fire-Resistant Treatments on Boise Cascade Engineered Wood Products

The primary function of a **fire-retardant** treatment is to delay ignition, reduce heat release rate and slow the spread of flames; typically in egress corridors. To meet the specifications in the building code and various standards, fire-retardant treated wood must meet the following performance requirements: 1) Flame Spread Index of 25 or less when tested according to the ASTM E84 flame spread test; 2) no evidence of significant progressive combustion when the ASTM E84 10-minute test is continued for an additional 20 minutes; and 3) the flame front shall not progress more than 10 1/2 feet beyond the centerline of the burners at any time during the E84 test. A fire-retardant treatment is not intended to affect the fire resistance of wood products as determined by an ASTM E119 test in any consistent manner.

The primary function of a **fire-resistant** treatment is to help increase the fire-resistance of walls, doors, ceilings, and floors to prevent or retard the passage of excessive heat, hot gases, or flames beyond the room of origin. The standard fire resistance test (ASTM E119) has three failure criteria: element collapse, passage of flames, or excessive temperature rise on the non-fire-exposed surface (average increase of several locations exceeding 282 °F (139 °C), or 358 °F (181 °C) at a single location).

Fire-Retardant / Fire-Resistant treatment effectiveness is influenced not only by the protective value of the treatment chemical, but also by the method of application, adhesion to the wood surface, extent of penetration and retention of the treatment chemical in the wood. Each set of treatment chemicals and processes has a unique effect on the mechanical properties of the wood.

Fire Retardant / Fire-Resistant treatment methods are of two general types:

a) Pressure processes, in which the wood is impregnated in closed vessels under pressures considerably above atmospheric

b) Nonpressure processes, which vary widely in the procedures and equipment used.

**Pressure Processes:** Boise Cascade Engineered Wood Products shall not be subjected to a pressure process method of applying a Fire Retardant /
Fire-Resistant treatment. Subjecting Boise Cascade Engineered Wood Products to pressure process methods of applying a Fire Retardant / Fire-Resistant treatment voids our product warranty.

**Nonpressure Processes:** Boise Cascade Engineered Wood Products shall not be subjected to a nonpressure process method of applying a Fire Retardant / Fire-Resistant treatment. Subjecting Boise Cascade Engineered Wood Products to nonpressure process methods of applying a Fire Retardant / Fire-Resistant treatment voids our product warranty.

Boise Cascade reserves the right to permit specific treatments. In these cases, it is the responsibility of the fire treatment manufacturer to determine the effects of their coatings and establish reduced product design values if necessary.