

HAS THE STATUTE OF LIMITATIONS EXPIRED FOR STEEL MOMENT FRAME STRUCTURES?

The Northridge Earthquake struck Los Angeles on January 17, 1994. Owners of steel moment frame buildings were shocked to learn, after the earthquake, that moment frame connections, critical for seismic resistance, had suffered brittle fracture failures. On January 16, 1997, Pillsbury, Madison & Sutro filed a class action lawsuit naming all steel frame owners as members of the “putative class,” and presumably “tolling” the statute of limitations. On February 4, 1998, the class action allegations in the *Pacific Design Center et.al vs. The Lincoln Electric Company*, (LASC number BC 164 229), were dismissed. No notice period was provided by the court in entering the dismissal. Are owners of steel frame buildings who did not file their lawsuits during the pendency of the class action or before the dismissal now barred by the three year statute of limitations CCP §338(b)?

BUILDING INSPECTIONS AFTER THE NORTHRIDGE EARTHQUAKE

The Northridge Earthquake challenged the assumption that welded steel moment frame connections were automatically capable of extensive yielding without a loss of strength. SAC 1.2. Thousands of welded steel moment frame connections fractured during the earthquake. SAC 1.2. Once such a fracture formed, the beam-column connection experienced a significant loss of flexural rigidity in capacity. SAC 1.2. It fractured when its strength was needed most. An astonishing 99% of these failures in the beam-column connection occurred with “self-shielded flux-core” weld metal. (National Institute of Standards and Technology, NISTIR 5625 *A Survey of Steel Moment-Resisting Frame Buildings Affected by the 1994 Northridge Earthquake*).

On March 1, 1995, the City of Los Angeles adopted a mandatory ordinance that required the inspection and repair of buildings with moment frame connections in designated earthquake damaged areas. LOS ANGELES CAL. MUN.

CODE §91.8908(a). In 1996, the City of Los Angeles banned the further use of flux cored weld metal, including E70T-4 weld metal, because it could not meet required “toughness” standards.

TECHNICAL STUDIES AFTER THE NORTHRIDGE EARTHQUAKE FOUND THAT BRITTLE WELD METAL WAS A SUBSTANTIAL FACTOR FOR THE FAILURES.

Industry studies have confirmed that self-shielded flux-core electrodes were a substantial factor of brittle weld failures during the Northridge Earthquake.

The Center for Advanced Technology for Large Structural Systems at Lehigh University published findings in 1996, concluding that the welds deposited with E70T-4 electrodes (self shielded flux-cored arc welding electrodes) had very low fracture resistance to moderate earthquakes and were likely candidates for brittle fracture failure. *Id.* at 31.¹

The Lehigh study found that brittle weld fractures developed in installations that used E70T-4 welding electrodes with backup bars. The fracture origins were identified at the weld root adjacent to the notch introduced by the backup bar at a location with inadequate root penetration. *Kaufmann* at 33. In contrast, when a ductile weld metal was used to fabricate a joint (such as E7018 stick electrode), no weld metal cracking occurred and the ultimate strength of the beam plate was developed, that is, it became a moment frame. *Id.*36.

Dynamic testing showed a much improved performance in strength and ductility (toughness) when the E7018 stick electrode was used. The Lehigh testing concluded that acceptable connection performance is obtainable by using a higher toughness weld metal, such as E7018, with the removal of backup bars. *Id.* at 39.

MANUFACTURER’S LIABILITY

¹ Lehigh concurred with published studies by the University of Texas at Austin and the University of Southern California which showed brittle fracture failures in laboratory configurations for “self shielded flux-core” (E70T-4) weld metal connections. Following the earthquake, the City of Los Angeles issued interdepartmental memos calling for weld metal toughness of 20 foot pounds at 0

Under traditional tort law, a manufacturer may be strictly liable if it places a defective product into the stream of commerce. *Greenman v. Yuba Power Products, Inc.*, 59 Cal.2d 57, 62; 27 Cal.Rptr. 697(1963). A year later, the Supreme Court extended the strict liability doctrine to retailers, because retailers are an integral part of the overall commercial enterprise and are in a position to enhance product safety. *Vandermark v. Ford Motor Co.*, 61 Cal.2d 256, 262-263; 37 Cal.Rptr. 896 (1964). The courts have since applied strict liability to others in the vertical distribution of consumer goods, although these defendants were not necessarily involved in the manufacture or design of the product. *Price v. Shell Oil Co.*, 2 Cal.3d 245; 85 Cal.Rptr. 178 (1970).

While numerous cases have applied strict liability to the developer or owner of a building, the first California case to apply strict liability to a manufacturer of a building component is *Bay Summit Community Association v. Shell Oil Co., et al.*, 51 Cal.4th 762; 59 Cal.Rptr. 2d 322. After installation of polybutylene plumbing in a condominium project, the homeowners began to experience leaks in the plumbing system. The polybutylene resin for the pipes was supplied in pellet form by Shell. The homeowners association sued the developer, the two manufacturers of the plumbing system and Shell.

Although there was no evidence of a defect in the resin pellets manufactured by Shell, the Court of Appeal held that Shell could be strictly liable if: “(1) the defendant received a direct financial benefit from its activities and from the sale of the product, (2) the defendant’s role was integral to the business enterprise such that defendant’s conduct was a necessary factor in bringing the product to the initial consumer, and (3) the defendant had control over, or a substantial ability to influence, the manufacturing or distribution process.” *Id.* at 15045.

degrees Fahrenheit. (July 16, 1996, City of Los Angeles Interdepartmental Correspondence re *Requirements For The Repair of Welded Steel Frame Connections In Existing Buildings.*)

Similarly, the manufacturers of E70T-4 may face imposition of strict liability by California courts, if the manufacturer is shown to receive a direct financial benefit from the sale of the product, the manufacturer's conduct was a necessary factor in bringing the product to the initial consumer market, and the manufacturer had either direct control over or substantial ability to influence the manufacturing or distribution process of E70T-4 welding electrode.

STATUTE OF LIMITATIONS DEFENSE

Will dismissal of the class action lawsuit cause the loss of viable claims against the manufacturers of the E70T-4 weld materials? Generally, the statute of limitations for discovered injury to property is three years. CCP §338(b).

The three year statute does not begin to run until the plaintiff is *aware of the injury and its negligent cause*. *Jolly v. Eli Lilly & Co.* (1988) 44 Cal.3d 1103, 1110; 245 Cal.Rptr. 658. The fact that the earthquake caused damage to a steel frame building may not start the running of the statute of limitations absent evidence that the *owner was aware of the negligent cause of the injury*.

Since the City of Los Angeles did not require inspections until after the adoption of the ordinance on March 1, 1995, the accrual date for the statute of limitations will likely commence from the date the owners received inspection reports from expert consultants. Simply stated, the commencement of the three year statute of limitations will vary from building to building and ultimately will be determined on a case by case basis.

Finally, the filing of the class action tolled the statute of limitations from the date of the filing of the lawsuit to the date of dismissal of the class allegations (*Pacific Design Center et.al vs. The Lincoln Electric Company*). Whether this tolling period can be used depends of the facts of each case.

Thus, it may not be too late for steel frame owners to file their steel frame actions.