

PLATE GLASS INSURANCE

BY

FRED S. GARRISON

INTRODUCTION

The manufacture of glass has been going on for centuries and has developed into a mammoth business. During recent years it has received a tremendous stimulus from automobile manufacturers who use great quantities of it and a few of whom are now engaged in manufacturing their own glass. It is estimated that the amount of glass used in automobiles in the United States in the year 1924 exceeded the entire plate glass output in this country in 1910.

The very nature of glass is such that it is easily broken, thereby making insurance against such damage not only advisable but necessary. Among the numerous causes of breaks in plate glass windows and show cases are windstorms, explosions, frost, snow, hail, ice, weather other than windstorms, sun's heat, throwing of stones, missiles, or baseballs, the projection of stones or other objects by passing automobiles, street vehicles (excluding stones or other objects thrown by automobiles), burglars, intoxicated persons, persons leaning or falling on glass, settling of building, articles dropped on show cases, falling awnings, defective setting, slamming doors, fighting and street disturbances, window dressing and cleaning, and workmen in or about the premises. But at least 40% of the total number of breaks are due to unknown causes. Usually in the latter case, the storekeeper upon opening his store in the morning discovers that his plate glass store front was broken from some unknown cause the night before.

The financial loss due to breakage of glass annually in the United States, without allowance for salvage, is probably between \$8,000,000 and \$10,000,000. The glass losses paid by insurance companies in the United States in 1924 after deducting allowance for salvage amounted to over \$6,000,000. While it is impossible to determine what percentage of glass is uninsured, Plate Glass Underwriters are practically unanimous in the opinion that not over 60% of all grade floor store fronts are protected by insurance. Probably not over ten or fifteen percent of the

glass above the grade floor is insured. The use of plate glass for store fronts, show cases, mirrors and for other purposes is essential in the conduct of many classes of business. Owing to its fragile nature, a certain quantity of it is bound to be broken. If the damage from such cause amounts to \$8,000,000 or \$10,000,000 annually in the United States, the necessity for plate glass insurance is evident. The comparatively small premium expenditure makes it possible to distribute the losses among a large number, thereby enabling Plate Glass policyholders to avoid the possibility of paying a substantial amount from time to time because of damage to their glass. Merchants recognize the sales value of an attractive display of merchandise behind clear and flawless plate glass in their show windows. There is scarcely any kind of merchandise that is not displayed in such manner. Some storekeepers call their show window displays "silent salesmen".

During and immediately after the great war, there were some unusually large losses caused by explosions. Uninsured storekeepers and owners of buildings had to pay considerable sums. The four principal explosions during recent years in this country caused losses to Plate Glass Insurance Companies aggregating \$565,000 as follows:

Year	Location	Amount	Cause
1916	Black Tom Island, New York Harbor.....	\$300,000	Explosion of ammunition in freight cars.
1917	Gillespie Loading Plant, Morgan, N. J., near Perth Amboy.....	165,000	Explosion of ammunition
1917	Halifax Harbor—Nova Scotia.....	25,000	Explosion of shipload of TNT in Halifax Harbor
1920	Wall Street, New York City.....	75,000	Explosion of bomb in Wall Street, New York

Needless to say, plate glass policyholders, when these explosions occurred, were mighty glad they carried insurance protection of this kind.

If there were no such thing as Plate Glass Insurance, the storekeeper would have to stand the loss himself, or endeavor, usually through legal channels, to collect the amount of his damage from the person or persons responsible for breaking the glass; but as has already been pointed out, from thirty to forty percent of the breaks are due to unknown causes, and many others from wind or

weather conditions. Many of the other breaks are of such a nature that the storekeeper would be unable to collect damages. The Plate Glass Insurance Policy contains a subrogation clause but Insurance Companies collect only a comparatively small amount from the person or persons causing the damage. The amount so collected is almost negligible compared with the losses for which subrogation rights are of no avail.

HISTORICAL DEVELOPMENT

Plate Glass Insurance is one of the oldest lines of casualty insurance and was issued in Europe before its advent in the United States. The first policy was issued in England over seventy years ago. The first stock company to engage in this line in this country started in 1867. It is still doing business although its volume of plate glass business, which is the only line it has ever written, is comparatively small. The line is now written largely by the multiple line companies, one of which began, and continued for many years, as a single line Plate Glass Company, and which recently celebrated its fiftieth anniversary. The business developed slowly for the first few years and in 1894 amounted to only \$1,215,898 in premiums written by seven Companies, six of whom are still in business and four of whom now write multiple lines. Notwithstanding the large number of Companies, both stock and mutual, engaged in this kind of insurance, it has not developed as rapidly as most of the other casualty lines. In 1924 the total premiums written by 55 Companies amounted to approximately \$17,000,000 or an increase of about \$16,000,000 in thirty years. When compared with other casualty lines, this is very slow progress, and may be attributable to the plan under which plate glass insurance has been issued from the beginning both in this country and in Europe. It is possible for the Applicant to select which plates he will insure, thereby naturally making the selection against the Company with resulting higher rates, which discourage many of the better risks. No plan has yet been devised that will cause every Applicant to insure all or even a reasonable part, of the glass in his premises. Practically all Companies make commendable efforts to do this, but with little success.

POLICY FORM

The Plate Glass Policy issued today by practically all Companies is the shortest and simplest of any of the standard forms used in any kind of insurance. There is very little, if any, difficulty in adjusting losses and practically no suits by policyholders. There is a record of only one such suit in the year 1924. This case arose over a question of whether the Assured, the glazier or the Insurance Company was liable for a plate of glass broken by the glazier while replacing another plate which also was covered by the Policy. The court held that the Insurance Company was liable and that the loss was not excluded under the terms of the Policy, which provided that the Company was not liable for any damage caused by or from the acts of operations of workmen engaged in the construction of or repairs to the building or frames in which the glass covered by the Policy was located.

The Plate Glass Policy in use today provides indemnity for all damage to the insured glass, as well as the insured lettering and ornamentation thereon, caused by the accidental breakage of the glass. No amount of insurance is stated. The Company's liability is limited only to the value of the glass at the time of breakage, with the exception of insurance on lettering ornamentation, and such glass as memorial windows and art glass, which is insured on a valuation basis representing the Company's maximum liability, which valuation is stated in the Policy. The Policy provides that the Company shall replace without unnecessary delay any broken glass and any lettering or ornamentation thereon insured under the Policy, or pay for the same in money, as the Company may elect. In either case the salvage, if any, belongs to the Company. Upon replacement of any glass or lettering or ornamentation covered by the Policy, or payment therefor by the Company, insurance continues automatically on the new glass or lettering or ornamentation, but the Assured is required to pay a pro rata additional premium therefor. The losses not covered are those resulting from (1) fire, earthquake, the blowing up of any structure by civil, military or naval authority; (2) improper glazing or the acts or operations of workmen engaged in the construction, demolition, or alteration of or repairs to the part of the building in which the insured glass is located; (3) the removal of any glass from its frame or permanent position. Until January 1, 1923, when a new Policy was

placed on the market by all Companies, the Policy had excluded coverage for losses by inundation, insurrection or riot, but the present policy covers damage to glass from such causes. The word "breakage" as used in the Policy does not apply to disfiguration of or damage to any glass unless it is a fracture extending through the entire thickness of the glass. The Policy contains the usual suspension, cancellation and subrogation clauses and it also provides that clamped, glued, bent, wired, leaded or cathedral glass, or doors, mirrors or show cases, or any glass not set in frames, sashes, or bars, or anything other than plain plate flat glass is not covered unless especially described and stated to be insured in the schedule.

RATE MAKING

Notwithstanding the number of years that this form of insurance has been written in this country, there was not until four or five years ago any statistical information available for rate making purposes, except the total premiums and total losses by states and some of the larger cities. Differentials were, and to a certain extent still are, based upon underwriting judgment for special kinds of glass and types of settings, such as clamped, bent, art, cathedral and carrara glass, lettering and glass signs. This is equally true of show cases, mirrors and other glass used for various purposes. A few Companies have from time to time inaugurated elaborate statistical systems, but owing to the large number of small items and extreme variations in sizes of plates the results were not sufficiently satisfactory to justify the expense involved. A commendable effort was made by twelve Companies who furnished statistics on the business written during the years 1918 and 1919 on the table premium basis, the table premium being the premium set forth in the rate tables in the Manual without application of any differentials for location or type of risk. While these figures, which amount to \$2,000,000 in table premiums, represent only a small proportion of the total business, they were helpful in reviewing rates for clamped glass, show cases and some other types of exposure. A new statistical plan was developed in 1924 for New York State, in accordance with the requirements of a recent law of that state, and is intended to show the actual results represented by the table premiums and losses for practically all of the principal types of exposure, but it is too

early to state with any degree of accuracy just how satisfactory these results will be because no experience under this plan has yet been compiled, although it is at present in the course of preparation.

For at least fifty years the plate glass manufacturers have published price lists arranged by the actual size of the plates, as plate glass is not usually sold on the square foot basis, owing to the radical increase in price between certain brackets. The difference in size between the largest plate in one bracket and the smallest plate in the next bracket may be only a few inches but the difference in price may be considerable. A plate containing 144 square feet of surface area costs over six times as much as a plate containing an area of 48 square feet, although only three times as large. At one time plate glass insurance rates were quoted on the basis of a percentage of the valuation set forth in the manufacturer's price list, and this is still followed in the present Plate Glass Manual today, although in an indirect manner. The Plate Glass Manual contains exactly the same tables of sizes as the manufacturers' price list, but the figures set opposite each size represent the table premium, whereas in the price list they represent the value, but both figures are subject to discounts. As the plate glass market prices change, the manufacturers raise or lower their discounts, as the case may be, and the insurance companies do likewise, but the gross price and gross premium usually remain stationary for a long period of years.

The insurance under 90% of the Plate Glass Policies is unlimited as to amount and if the price of glass rises the loss ratio will rise. In normal times the price of glass in a large city may change two or three times a year, but as a rule the net change for the full year is not very great. But during the war the price of glass rose from 300% to 400%, depending on the locality, with resulting increases in premium rates, which, however, were at times many months behind the increase in the price of glass.

The price of glass varies in different cities. In some cities it is customary for glaziers to quote the net price for furnishing and setting the glass, while in others they prefer to make two separate charges—one for furnishing the glass and the other for setting it. Allowances for pieces of salvage containing more than ten square feet are made by practically all glaziers. In addition, however, to the effect of the price of glass on the premium rates, there are

other factors which enter into the rates such as windstorms, floods, explosions and riots. However, the larger losses due to explosions during the war were excluded from the experience used for rate making purposes. Geography plays a part in rate making, not only because some localities are more subject to windstorms and floods than others, but because of their remoteness from a plate glass factory or dealer and the resulting higher freight charges for shipping the glass, but whatever the cause of loss, the results tabulated by states and cities accurately reflect the loss cost upon which the rates are based. A few years ago an effort was made to introduce experience rating in the plate glass business, but a large majority of the Companies were opposed to it. However, it appears quite evident that in many respects experience rating in this line, especially for risks of sizeable proportions, would produce satisfactory results, and could be more easily applied than in some other classes of insurance to which it has been applied successfully for several years. In time experience rating will unquestionably be applied to this line, and there will also no doubt be other improvements. Until some means is devised that will enable the Companies to insure all of the glass in the premises, or at least all of the store fronts, show cases and mirrors it is doubtful if plate glass insurance will develop the volume of premiums which it should and thereby place it in its proper position in the casualty insurance business.

The only method of plate glass rating that might be called "merit" rating is the discount of 25% allowed for exterior shields of stout wire mesh or wired glass covering exterior glass in windows and maintained in position at all times. There are various devices intended to protect large plates against unusual wind pressures as well as from blasting and similar hazards, but as they are of no avail against breakage from many other causes, no discount in the premium rate is allowed for them.

In making rates, five features are taken into consideration, as follows:

- (1) Location, including state, city, and zone;
- (2) Position of glass in the building;
- (3) Kind of glass;
- (4) Purpose for which the glass is used;
- (5) Style of setting.

The usual method followed in fixing plate glass rates is to take the premiums earned and losses incurred for all Companies combined and to segregate such figures—first, by states and in some cases, groups of states—and then by the cities of 50,000 population or over, and also in the cases of such cities as New York, Jersey City, Newark, Boston, Chicago, Philadelphia and Detroit, by zones into which those cities are divided. Greater New York, for example, is divided into approximately 250 zones. In the case of a risk in a corner building on two streets, both of which are zone boundaries, the average rate of the two zones is used. The zoning of the large cities for rating purposes has proven to be desirable and has enabled the Companies to avoid charging exorbitant rates for risks in the better sections and to charge adequate rates in other sections. The difference in hazard between different sections of the same city is apparent. Congested areas composed of narrow streets naturally require higher rates than are charged in sections where the streets are wide and there is little if any congestion and the stores are well kept. In some cities it is the custom of glaziers to make a higher charge for setting glass in the outlying sections, and this also is reflected in the loss ratio and consequently has a bearing on the rates. Zone rates are applied through use of differentials. In Greater New York there is an organization known as the Plate Glass Insurance Exchange in which a card is filed for each risk insured. This card shows the location of the risk, the number of plates and the premium. The purpose of this system is to register the premium for each risk. The Exchange, however, is not a rate making organization. The rates for Greater New York are made by the same Bureau that makes the rates for the entire United States. Sometimes two or more cards showing different premiums are filed for the same risk by different Companies, but such differences are usually due to the fact that the number of plates to be insured by each Company is not the same. If two cards with different premiums for the same plates are filed by two Companies, the Exchange checks the premiums to determine which is correct and notifies the Company quoting the incorrect premium to make the necessary correction. The necessity for this practise is due to the large number of plate glass risks in Greater New York, the volume of premiums there being approximately one-fifth of the total premiums for the entire

United States. Because the premium is computed on the dimensions of each individual plate, errors sometimes creep in and the filing of the card in the Exchange is intended to reduce the number of such errors to a minimum. The purpose of the Exchange is similar to that of the Stamping Offices maintained by the Fire Insurance Companies in many large cities.

The position of the glass in the building also has a bearing on the rate as show window glass located on the grade floor, basement or first floor above a basement is subject to a much higher rate than for similar glass located above such floors. For example, in New York City the rates for plates of not over 60 inches in the smaller dimension and located above the grade floor is only one-eighth of the premium for the same plates on the grade floor. Larger plates above the grade floor require a rate of two-thirds of the premium for such plates on the grade floor. The rate for interior glass, such as show cases, is double the rate for glass in show windows, but on such interior glass as stationary mirrors the rate is only one-fourth of the show window rate.

The kind of glass has a very material bearing on the rate. Clamped, glued or cemented glass (not bent), in a show window is subject to 100% additional premium over that charged for plain plate glass in the same window. Bent glass containing not over 21 square feet in surface area requires a premium of five times that chargeable for flat glass. Bent glass containing over 21 square feet is insured at a flat rate of 10% of the valuation which must be stated in the Policy. Bent glass requires a higher rate because it is not only more expensive but it is more difficult to obtain and set. Many plate glass factories do not manufacture bent glass at all. The same is true of art, cathedral or jeweled glass. The rate for such glass as carrara, opalite, vitrolite, argentine, and motion picture screens is 15% of the valuation, and for lettering, designs and glass signs—10%.

The purpose for which the glass is used also has a bearing on the rate. Show cases, shelves and counter or table tops require a higher premium than is charged for show windows. This is because the chances of breakage are greater, particularly on show cases where people are continually leaning on them or dropping articles thereon. Furthermore, show cases are frequently moved about and this creates an additional hazard not present in the show window plate.

Style of setting affects the rate also. A plate of clamped glass when broken frequently causes the plate adjoining it to break also. This is not so likely to happen in the case of plates set independently of each other.

Two methods are used in making rates—One, the loss ratio basis arranged by states, cities and zones, and the other what is in part at least a pure premium basis. In applying this plan the actual amount of losses paid in a given city or locality are taken and the present price of glass compared with the average prevailing for the period during which the losses were incurred, which losses are thus modified to present day values. The amount of premium necessary to produce a $42\frac{1}{2}\%$ loss ratio is obtained by multiplying such losses by 2.37. The total premium thus obtained is compared with the premium actually charged during the experience period, but at this point an estimate must be made to obtain the average rate for the period unless there have been no changes in the Manual rate during that period. If there has been no such change the premium actually charged at Manual rates can easily be compared with the premium to be charged to take care of the same losses at present day prices, but in all such cases due allowance must be made for possible fluctuation either way in the price of glass during the next six months.

Experience indicates that while there are several satisfactory styles of setting, the old-fashioned wood setting is probably the most satisfactory. Wood settings are not subject to the contraction and expansion existing in metal settings nor do they involve the exposed edges and clamps used in setting so-called clamped glass. The coverage furnished under the Plate Glass Policy is largely in the nature of a service rendered the Assured by transferring all of the responsibility to the Insurance Company in removing the broken glass and furnishing and setting the new glass. Less than 2% of plate glass losses are settled by the payment of actual cash indemnity to the Assured, and most of such cases are in connection with art and cathedral or similar glass insured on the valuation basis.

Another new feature of recent development in this line is the plan under which the Insurance Company issues a Policy at one-half of the Manual premium and attaches an endorsement to the effect that the Assured shall pay all losses up to the amount of premium stated in the Policy, and from then on to the end of the

Policy Period the Company pays all losses in full. So far this plan has been applied only to policies for which the Manual premium is at least \$50.00 and is used by only one stock company, which is a non-Bureau Company, and several reciprocals. The Bureau Companies have not adopted it, preferring to provide full coverage at full Manual rates.

There is no moral hazard in plate glass insurance comparable with that in burglary, automobile, accident and other lines, but this term is sometimes used in connection with the care (or lack of it) exercised by the Assured in protecting his glass and keeping his premises clean and in good shape. There is no incentive for fraudulent claims. The breaking of a perfectly good plate of glass and its replacement by another of the same type and quality not only does not benefit the Assured, but usually causes him some temporary inconvenience during the removal of the broken glass and the setting of the new plate or plates.

A new form of plate glass insurance was started a year or more ago under which insurance is provided on glass in automobiles against damage by breakage. Owing to lack of sufficient experience, the first rates were experimental—\$5.00 for an open car and \$10.00 for a closed car, with higher premiums for taxicabs, public and commercial vehicles. The rates were recently reduced to \$3.50 and \$7.50 respectively. This form of insurance is provided by endorsement attached to the standard Plate Glass Policy or in the Automobile Liability Policy.

The most difficult problem in the Plate Glass Insurance business is to develop a plan that will enable the Insurance Companies to insure desirable risks at lower rates and thereby attract a large number of risks not now insured, and at the same time permit the Companies to make a reasonable profit, but it is evident that this cannot be accomplished until some plan is devised that will not permit the average storekeeper to select two or three large front plates for insurance without requiring him to insure his less exposed glass and glass of smaller dimensions. In other words, the Companies must receive a premium on the better part of the risk before rates can be reduced on the more hazardous part. This is not only a difficult problem but a very old one. Plate glass underwriters have struggled with it for years, but as yet no satisfactory remedy has been found.