IMIA 6-46 (92) E

performance guarantee
Technologische
Risiken

GUARANTEE INSURANCE

(i) MECHANICAL & ELECTRICAL ENGINEERING

~~(ii) CONSTRUCTION WORKS~~

GUARANTEE INSURANCE

MECHANICAL & ELECTRICAL ENGINEERING

A PRESENTATION TO THE
1992 CONFERENCE OF THE
INTERNATIONAL MACHINERY
INSURERS ASSOCIATION,
MUNICH, SEPTEMBER 1992

CLIVE FRASER-ANDREWS
GREAT BRITAIN

GUARANTEE INSURANCE

MECHANICAL & ELECTRICAL ENGINEERING

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1 Preamble

The expression 'Guarantee' implies an undertaking to compensate the purchaser of goods or services in the event of default by the supplier of the goods or services. This undertaking may be provided by the supplier or by an independent organisation which is not otherwise involved in the contract between the supplier and purchaser.

Insurance companies offer to provide policies which, in the event of a successful claim against the supplier, will indemnify the supplier or under some policies will indemnify the purchaser directly.

Examples of policies which provide these forms of indemnity may be found in the engineering insurance market and in the liability insurance market. Product Liability insurance, also known as Product Guarantee, is underwritten in the liability insurance market and, falling outside the traditional scope of engineering insurance, is not examined in this paper.

The engineering insurance market offers many forms of cover generically described as Guarantee Insurance and having their own particular characteristics. Indeed, one common form of cover provided within the engineering insurance market is offered specifically to meet some of the needs of manufacturers but remains distinct from the Product Liability or Product Guarantee insurances which are found within the liability market.

Evidently arising from the wide variety of meanings imparted by the expression 'Guarantee Insurance', a strong interest was expressed at the 1991 IMIA Conference in a number of topics relating to Guarantee Insurance for discussion at this subsequent Conference in 1992.

The topic titles were:
Different types of Guarantee Insurances
Inventory of different types of Guarantees
Underwriting considerations in Makers' Guarantee Insurance
Contractual requirements for Extended Guarantee
Construction Guarantee Insurances
Contractors' All Risks Guarantee 10-30 years
Update of experience in Decennale in France

These topics fell into two groups under the broad headings of Mechanical & Electrical Engineering, and Construction Works. Assignments under these same broad headings were undertaken by the British delegation and the Swedish delegation respectively.

Based on a survey by questionnaire to IMIA members and analysis of the responses, this paper reports upon the first of these assignments, Mechanical & Electrical Engineering, and some general conclusions are drawn for this class of insurance business which falls within the recognised engineering insurance market and is described as Guarantee Insurance.

2 Introduction

The preamble has already shown that the term Guarantee Insurance can have many meanings. When used as the main title of this paper, clearly it is being used in an all embracing manner for this class of business.

However the same expression Guarantee Insurance is also applied to a specific major category of this class of business in mechanical and electrical engineering, whereby insurers provide indemnity to manufacturers for defects in their products. Less confusingly, the same category is better known as Manufacturers' Guarantee or sometimes as Makers' Guarantee. Some variations in description have been reported by members, such as Suppliers' Guarantee, Machinery Guarantee Insurance and Machinery Breakdown Guarantee Insurance.

Another specific and distinctive major category is associated with Erection All Risks policies and forms the second category under which further consideration is given in this part of the paper. Some of these covers are also issued under the title of Guarantee Insurance and, to add to the complication, other similar covers in this category are issued under the policy title of Manufacturers' Guarantee.

These two major categories, and some variants, emerged from the analysis of the responses by IMIA members to a questionnaire, and the survey results obtained are set out in the following section.

3 Survey Results

When considering the results of the responses to the questionnaire, it must be borne in mind that it has not been possible to allow for differing sizes of the market represented by each response, and that the individual responses, by the very nature of some of the questions, must be subjective to a greater or lesser extent.

However, the analysis is helpful in identifying the main categories of Guarantee Insurance in mechanical and electrical engineering, the dominant features of each of these main categories, and in demonstrating the spread and significance of the other features.

The results of the responses are set out in the same format as the original questionnaire, except that the brackets on the left hand side of each question contain the number of replies which have been indicated positively for that question.

The survey results are presented for the two categories introduced in the previous section, namely Manufacturers' Guarantee and covers associated with Erection All Risks (E.A.R.) policies and their extensions. However, whilst not directly evident from the survey results, some interchange may be possible between the two categories.

Some helpful supplementary comments accompanied the replies to the questionnaire, and this information has assisted in the preparation of the text which follows the survey results.

Manufacturers' Guarantee Covers

1. Type of policy or cover.
Please enter (in English) the title of this type of policy or the name by which this type of cover is known.

(4) Manufacturers' Guarantee
(1) Makers' Guarantee
(1) Suppliers' Guarantee
(2) Guarantee Insurance
(1) Machinery Guarantee Insurance
(1) Machinery Breakdown Guarantee Insurance
(1) Performance Guarantee

2. Type of property covered

(8) restricted to a single type specified in the policy
(6) restricted to a range of types specified in the policy
(0) without restriction (blanket cover)
(0) other

3. Type of policyholder

(11) manufacturers
(2) refurbishers and overhaulers
(2) erectors and installers
(1) project clients and purchasers
(0) a combination of the above
(0) other

4. Underlying reason for the cover

(1) statutory requirements
(9) contractual requirements
(0) associated C.A.R. policy
(2) associated E.A.R. policy
(3) other

5. Principal features of the cover

(9) design, workmanship, materials employed at the manufacturing premises
(4) design, workmanship, materials employed during construction/erection at site
(3) machinery breakdown, explosion
(1) performance attainment
(0) liquidated damages, fines and penalties for delays
(0) consequential financial loss
(1) retention of subrogation rights
(0) other

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6. Exclusions

(3) loss or damage due to defective design
(2) costs of repairing or replacing the deficient item itself - although covering resultant damage to other items
(6) series losses
(6) prototypes
(0) new application of proven components
(0) other

7. Period of cover normally sought

(1) 6 months
(8) 12 months
(4) 2 years
(2) above 2 years

8. Is there pressure on Insurers to provide longer periods of insurance?

(1) never
(4) seldom
(6) sometimes
(0) frequently

9. What are the reasons for longer periods of insurance being sought?

(0) statutory requirements
(6) contractual responsibilities
(4) contractual insurance obligations
(8) commercial advantage to guarantor
(0) other reasons

10. Typical minimum and maximum percentages of self-insurance (ie excesses or deductibles), expressed as a percentage of the loss. Please circle two letters to indicate the range between the minimum and maximum percentages.

(5) 0 - 19%
(5) 20 - 39%
(0) 40 - 59%
(0) 60 - 79%
(0) 80 - 99%

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11. Typical minimum and maximum premium level, expressed as a percentage of likely premium corresponding to machinery breakdown cover for similar property. Please circle two letters to indicate the range between the minimum and maximum percentages.

(0) 0 - 25%
(2) 26 - 50%
(3) 51 - 75%
(4) 76 - 99%
(3) 100% of machinery breakdown premium
(0) 101 - 125%
(0) 126 - 150%
(0) 151% and above.

12. Typical minimum and maximum loss ratios for this type of cover. Please circle two letters to indicate the range between the minimum and maximum percentages.

(4) 0 - 50%
(2) 51 - 75%
(4) 76 - 99%
(0) 100%
(2) 101% - 150%
(2) 151% and above

13. Is there pressure on Insurers to provide this type of cover as an accommodation for other classes of business?

(4) never
(3) seldom
(4) sometimes
(0) frequently

14. If the above pressure is experienced, how intense is the pressure?

(2) insignificant
(0) slight
(4) moderate
(0) heavy
(0) severe

15. To what extent is the issue of this type of cover encouraged or discouraged by Insurers?

(1) strongly discouraged
(6) discouraged
(3) neutral
(0) encouraged
(0) strongly encouraged

16. What special risk assessment procedures are employed when considering this type of cover?

(0) none
(1) scrutiny by underwriters in greater detail than usual
(6) scrutiny by a senior underwriter/manager
(7) examination of the case by a specialist
(0) other

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Covers associated with E.A.R. Policies

1. Type of policy or cover.

   Please enter (in English) the title of this type of policy or the name by which this type of cover is known.

   (14) Extension to EAR
   including visits maintenance, extended maintenance, guarantee, guarantee maintenance, maintenance guarantee, full guarantee
   (4) Guarantee Insurance
   (2) Manufacturers' Guarantee

2. Type of property covered

   (9) restricted to a single type specified in the policy
   (11) restricted to a range of types specified in the policy
   (6) without restriction (blanket cover)
   (0) other

3. Type of policyholder

   (6) manufacturers
   (2) refurbishers and overhaulers
   (9) erectors and installers
   (3) project clients and purchasers
   (11) a combination of the above
   (0) other

4. Underlying reason for the cover

   (1) statutory requirements
   (12) contractual requirements
   (3) associated C.A.R. policy
   (13) associated E.A.R. policy
   (1) other

5. Principal features of the cover

   (8) design, workmanship, materials employed at the manufacturing premises
   (17) design, workmanship, materials employed during construction/erection at site
   (5) machinery breakdown, explosion
   (0) performance attainment
   (0) liquidated damages, fines and penalties for delays
   (2) consequential financial loss
   (2) retention of subrogation rights
   (0) other

6. Exclusions

(2) loss or damage due to defective design
(10) costs of repairing or replacing the deficient item itself - although covering resultant damage to other items
(7) series losses
(7) prototypes
(1) new application of proven components
(4) other

7. Period of cover normally sought

(1) 6 months
(18) 12 months
(9) 2 years
(1) above 2 years

8. Is there pressure on Insurers to provide longer periods of insurance?

(0) never
(7) seldom
(10) sometimes
(3) frequently

9. What are the reasons for longer periods of insurance being sought?

(0) statutory requirements
(9) contractual responsibilities
(8) contractual insurance obligations
(9) commercial advantage to guarantor
(2) other reasons

10. Typical minimum and maximum percentages of self-insurance (ie excesses or deductibles), expressed as a percentage of the loss. Please circle two letters to indicate the range between the minimum and maximum percentages.

(14) 0 - 19%
(10) 20 - 39%
(1) 40 - 59%
(0) 60 - 79%
(0) 80 - 99%

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11. Typical minimum and maximum premium level, expressed as a percentage of likely premium corresponding to machinery breakdown cover for similar property. Please circle two letters to indicate the range between the minimum and maximum percentages.

(6) 0 - 25%
(9) 26 - 50%
(9) 51 - 75%
(5) 76 - 99%
(2) 100% of machinery breakdown premium
(2) 101 - 125%
(1) 126 - 150%
(0) 151% and above.

12. Typical minimum and maximum loss ratios for this type of cover. Please circle two letters to indicate the range between the minimum and maximum percentages.

(13) 0 - 50%
(4) 51 - 75%
(4) 76 - 99%
(1) 100%
(3) 101% - 150%
(2) 151% and above

13. Is there pressure on Insurers to provide this type of cover as an accommodation for other classes of business?

(3) never
(7) seldom
(8) sometimes
(3) frequently

14. If the above pressure is experienced, how intense is the pressure?

(3) insignificant
(3) slight
(9) moderate
(3) heavy
(0) severe

15. To what extent is the issue of this type of cover encouraged or discouraged by Insurers?

(1) strongly discouraged
(5) discouraged
(11) neutral
(5) encouraged
(0) strongly encouraged

16. What special risk assessment procedures are employed when considering this type of cover?

(2) none
(8) scrutiny by underwriters in greater detail than usual
(11) scrutiny by a senior underwriter/manager
(7) examination of the case by a specialist
(0) other

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4 Manufacturers' Guarantee Policies

The analysis identified a major category of Guarantee Insurance characterised by insurers indemnifying manufacturers for defects originating in their own manufacturing premises. Variously described as Manufacturers' Guarantee, Makers' Guarantee, Suppliers' Guarantee, Machinery Guarantee Insurance, Machinery Breakdown Guarantee Insurance, or even simply as Guarantee Insurance, these policies have all been grouped into one category and for the purpose of clarity the expression Manufacturers' Guarantee will be used in the subsequent sections of this paper to represent this group of policies, unless the context indicates otherwise.

From the responses to the questionnaire, the salient characteristics of these policies have been synthesised into a model of a typical Manufacturers' Guarantee policy.

The typical policyholder is a manufacturer who has obtained cover for one or more specific types of his product declared in the policy which he has obtained in view of the imposition of his contractual obligations to remedy defects originating at his manufacturing premises, and possibly also at sites where the manufacturer has contracted to erect his products.

The policy probably excludes series losses and prototypes, but may also exclude defective design and/or the cost of repairing or replacing the defective item itself. The policy is usually applicable for 12 months, although a two year period is often sought to meet contractual obligations or where this is perceived by the manufacturer to give him a competitive edge for his activities.

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Insurers impose a deductible up to 20% or often up to 40% of the loss and charge a premium anywhere between 25% and 100% of the premium for a comparable conventional Machinery Breakdown risk. Loss ratios can be lower than 50% but are more likely to approach 100% or higher in some cases exceeding 150%.

Whilst there is seldom any significant pressure on insurers to provide this type of cover, insurers do not welcome this category of business, which is normally accepted only after scrutiny by a senior underwriter, manager or specialist.

The extent and manner in which policies are likely to vary from the typical model described above can be assessed from a perusal of the questionnaire analysis in Section 3.

Performance Guarantee

Associated with the category of Manufacturers' Guarantee policies the survey includes a radically different policy variant, Performance Guarantee. Having many of the features ascribed to Manufacturers' Guarantee, the Performance Guarantee policy uniquely indemnifies the manufacturer against failure to attain the performance he has contracted to deliver. This is regarded as differing radically from the concepts previously discussed and therefore Performance Guarantee is deemed to fall outside the category of Manufacturers' Guarantee.

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5 Covers associated with E.A.R. Policies

The analysis identified a second major category of Guarantee Insurance inherently associated with E.A.R. policies. Most often these covers were issued in the form of extensions to E.A.R. policies, although in a few cases independent policies were available to close a gap which might otherwise occur in the overall insurance cover provided for a project.

A range of familiar expressions appeared describing different types of cover which are provided in the form of extensions to E.A.R. policies. These covers were described as visits maintenance, extended maintenance, guarantee, guarantee maintenance, maintenance guarantee and full guarantee.

A few independent policies, either directly or indirectly associated with E.A.R. policies, provided cover for manufacturers' products which formed part of an erection contract, and either carried the title of Guarantee Insurance or the title Manufacturers' Guarantee.

These policies aptly demonstrate the scope for a possible misunderstanding. In the preceding paragraph the expression Manufacturers' Guarantee is the title of a policy having crucially different features compared to the Manufacturers' Guarantee policies discussed in Section 4. Similarly, in contrast to its use in Section 4, the expression Guarantee Insurance is seen here as the title of a distinctive type of policy associated with E.A.R. covers, in addition to Guarantee Insurance being the all embracing title for the class of engineering insurance which is the subject of this paper.

E.A.R. Extensions

From the responses to the questionnaire, the salient characteristics of the covers provided by the extensions to the E.A.R. policies have been synthesised into a model of a typical E.A.R. policy extension cover.

The typical policyholder is a manufacturer and/or erector who has obtained cover for a declared range of types of his products, although this may be restricted to a single type, or at the other extreme may be without restriction, providing a blanket cover for the policyholder's products. The policy has been obtained in view of the imposition of the policyholder's contractual obligations under an erection contract to remedy defects originating at site during erection or during maintenance, or in many instances to remedy defects originating at his manufacturing premises also.

The policy probably excludes costs of repairing or replacing the deficient item itself (although covering resultant damage to other items) and may also exclude series losses and prototypes.

The policy is usually applicable for 12 months although a two year period is often sought to meet contractual obligations or where this is perceived by the manufacturer/erector to give him a competitive edge for his activities.

Insurers impose a deductible up to 20% or often up to 40% of the loss and charge a premium from below 25% to above 75% of the premium for a comparable conventional Machinery Breakdown risk, or even above the Machinery Breakdown premium in a few isolated cases. Loss ratios are likely to be below 50%, but may reach anywhere up to 150% or above.

Insurers do not generally feel subjected to any significant pressure to accept this business, and their attitude is one of being moderately receptive to this class of business, which may be accepted either after scrutiny by the normal underwriters in greater detail than usual or possibly after referring the case for scrutiny by a senior underwriter, manager or specialist.

E.A.R. associated Policies

Six responses to the questionnaire gave information on independent policies directly associated with E.A.R. policies, namely Guarantee Insurance and Manufacturers' Guarantee of the E.A.R. associated type. For these policies, the profile of salient characteristics is similar to those described for E.A.R. extension covers. However, there are a few identifiable differences which reflect the emphasis on other features of these policies, directed more towards the policyholder's interest in his main activity located at his own manufacturing premises, whilst providing the cover needed for his site activity.

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In these cases the policyholder is almost certainly a manufacturer (although he may be included with others involved in the same project), and the cover required is almost certainly restricted to a single type of his product declared in the policy.

It is interesting to note that these policies produced a rare example among the responses to the questionnaire of a policy being required by statute.

Quite unlike the E.A.R. extension covers, these policies indemnify the costs of repairing or replacing the deficient item itself which has caused damage at site, making this type of policy an attractive complement to an E.A.R. policy.

The deductibles, premium levels and loss ratios are similar for these policies as for the E.A.R. extension covers previously described. However, some firm shades of difference emerged for these policies. The deductibles imposed by the insurers are most unlikely to exceed 20%. Higher premiums are obtained, never less than 25% of the comparable conventional Machinery Breakdown premium and very likely to approach, equal, or exceed it. Perhaps on account of these higher premiums, or possibly for other reasons, the loss ratios are most probably below 50% and in any event below 100%, signiciantly better than for the E.A.R. extension covers.

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Patent Defect Guarantee

One respondent reported that for international projects requests were frequently received for Patent Defect Guarantees of five years, but such requests were always declined. Since, evidently, policies of this type are not issued, the analysis makes no reference to Patent Defect Guarantee beyond recording a positive indication of frequent pressure on insurers to provide a longer period of insurance.

For all types of covers associated with E.A.R. policies, the extent and manner in which they are likely to vary from the typical models described can be assessed from a perusal of the questionnaire analysis in Section 3.

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6 Conclusions

By their participation in the survey, IMIA members have revealed the scope for misunderstandings over the titles used for different types of Guarantee Insurance covers available in mechanical and electrical engineering business. This paper may help to resolve some of those potential misunderstandings. It may also contribute towards improved accuracy when members report their premiums and claims under the heading of Guarantee Insurance for inclusion in the IMIA annual statistics.

Over the years, the national reports appearing in the IMIA Conference documents have shown that Guarantee Insurance forms a very small proportion of the total business volume underwritten in the engineering insurance market. Indeed, the IMIA analysis of annual figures combines Guarantee Insurance into one group containing C.A.R./E.A.R./Guarantee for the purpose of global statistical presentation. This grouping of Guarantee Insurance with E.A.R. certainly appears logical in the light of the survey results reported in this paper, with so many examples of this type of business either being extensions to or associated with E.A.R. policies. Furthermore, some of the Manufacturers' Guarantee policies may also have a distant (or not so distant) origin in the manufacturers' obligations within actual or potential erection projects incorporating his products.

Insurers are seen to take a fairly relaxed view of Guarantee Insurance business in the form of covers which are extensions to or associated with E.A.R. policies, producing acceptable results generally. For Manufacturers' Guarantee, however, adverse results are not uncommon and many insurers discourage the development of this type of business.

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TYPICAL E.A.R. POLICY EXTENSION COVER

Policyholder	manufacturer and/or erector
Property covered	a specific type or range of products (possibly blanket cover)
Reason for cover	erection contract obligations to complement E.A.R. policy
Features of cover	remedy defects originating at site during erection and maintenance (often at manufacturing premises also)
Exclusions	repair of defective component (often series losses, prototypes also)
Period of cover	12 months (often 24 months)
Deductible	between 0-40% of loss
Premium Rate	between 25-100% of machinery breakdown rate (possibly lower, occasionally up to 150%)
Loss Ratio	below 50% (sometimes up to 150% or more)
Pressures on Insurer	sometimes to extend period sometimes as accommodation business
Insurers' reactions	(i) discouraging/neutral/encouraging (ii) acceptance by usual underwriter or after scrutiny by senior and/or specialist

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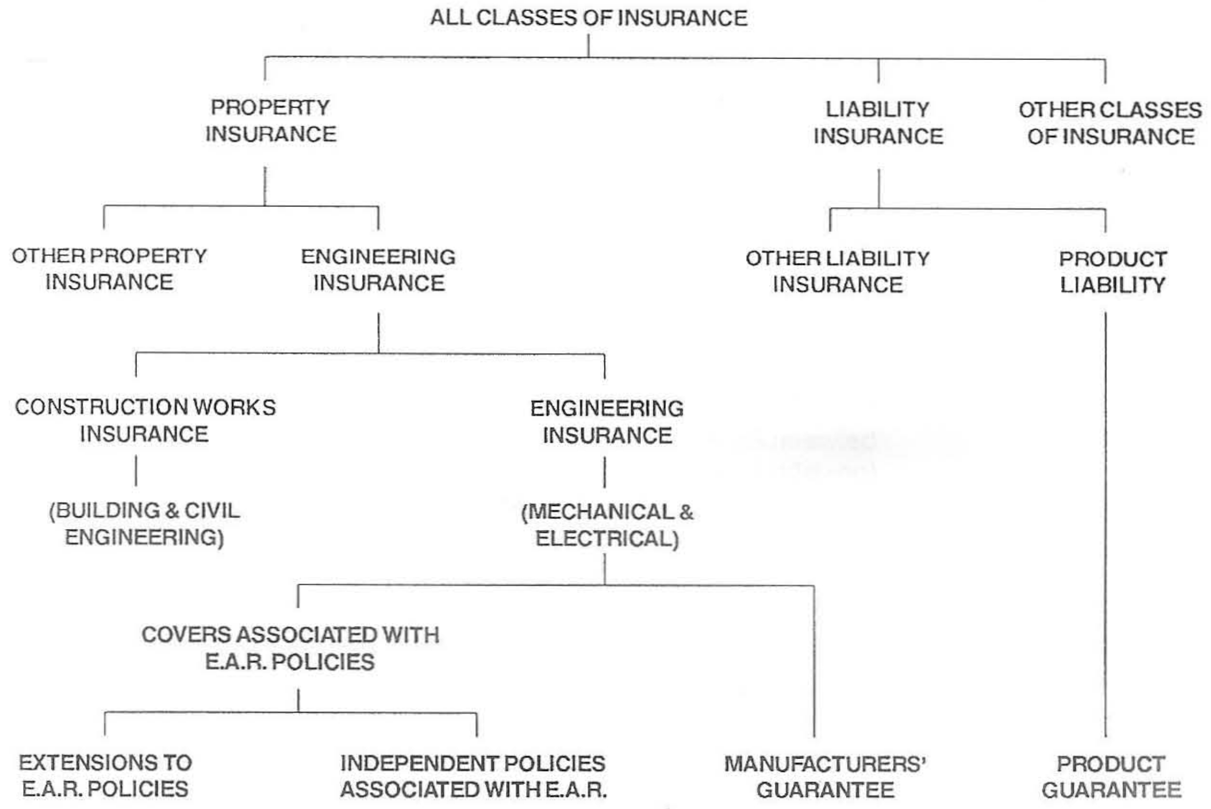
TYPICAL E.A.R. ASSOCIATED POLICY

Policyholder	manufacturer (possibly jointly with other project participants)
Property covered	a specific type of product
Reason for cover	erection contract obligations to complement E.A.R. policy
Features of cover	remedy defects originating at site during erection and maintenance (often at manufacturing premises also)
Exclusions	often series losses, prototypes
Period of cover	12 months (often 24 months)
Deductible	between 0-20% of loss
Premium Rate	between 25-100% of machinery breakdown rate (often higher, occasionally up to 150%)
Loss Ratio	below 50% (sometimes up to 100%)
Pressures on Insurer	sometimes to extend period sometimes as accommodation business
Insurers' reactions	(i) discouraging/neutral/encouraging (ii) acceptance by usual underwriter or after scrutiny by senior and/or specialist

COMMERCIAL UNION



COMMERCIAL UNION

TYPICAL MANUFACTURERS' GUARANTEE POLICY

Policyholder	manufacturer
Property covered	one specific type of product (possibly a range of products)
Reason for cover	contractual requirements
Features of cover	remedy defects originating at manufacturing premises (possibly at erection site also)
Exclusions	series losses, prototypes (possibly defective design and/or defective component also)
Period of cover	12 months (possibly 24 months)
Deductible	between 0-40% of loss
Premium Rate	between 25-100% of machinery breakdown rate
Loss Ratio	between 0-100% (sometimes up to 150% or more)
Pressures on Insurer	sometimes to extend period sometimes as accommodation business
Insurers' reactions	(i) discouraging (ii) acceptance only after scrutiny by senior and/or specialist

COMMERCIAL UNION