Interlocking paving block industry: a look at the future

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Introduction

WITH so much ingenuity and effort now being injected into the manufacture and promotion of interlocking paving blocks, how could the future of our industry be anything but bright? One has only to look at the size of a largely-untapped market, and at the impressive advances in our production methods, or to observe the impressive publicity put out by our companies and national associations, in order to reach this conclusion. But what sort of.future can we expect to meet, and how effective will our current efforts turn out to be? These questions are worth pondering and we need to ask perhaps; will the path be easy or hard, and are any unforeseen setbacks awaiting us in the future? Surely, at a Conference like this we need to examine these questions more deeply; and that is basically the purpose of this paper.

What emerges will not be prophecy, but a reminder of the many factors which influence progress in any undertaking. From there we shall progress to a review of those which specifically bear on our own particular operation. The first two parts of this paper will examine, on the one hand, the external influences which affect all of industry in the years to come and which are largely outside our control. Then we shall look at how our industry could develop within the constraints of the market and in the light of the evolving technology which we ourselves have power to influence.

The external environment

Economic and political

Although far removed from the processes of manufacturing and supplying concrete blocks, it must be admitted that our political and economic background has a profound effect on the workings of our industry. At all times we are affected by the state of the world economy and by the state of our national economy. Our success and prosperity has to depend on whether we are living in times of boom or of slump, or whether inflation or deflation is the ruling influence.

The national political situation, and to some extent world politics as well, can determine levels of demand and the level of peace and prosperity which our citizens as well as our industries will enjoy. At worst there can be wars and revolutions. At best there will be stability and tranquility which is conducive to industrial development.

We live in a rapidly changing society, and we can expect changes still more rapid and significant in years to come. One only has to think of the changes in working conditions over the last few decades to observe how these have affected industry as we know it. Changes in sociological attitudes are also significant, and will be more so in future. One recent and significant trend has been the public concern for the preservation of rural and urban environment, particularly in countries scarred by the uncaring developers of past generations.

Not to be overlooked is the availability of essential raw materials - not only of fuels but of the essential ingredients to our own material, concrete.

The industrial environment

At all times our industry is affected by changes in financial climate, and by legal and social developments which bear directly on our activities. Year by year we observe the fluctuations of our national finances which, through the effects of changing inflation rates, interest levels and general climate of investment, all influence our planning and our day-to-day decision making. On the labour side, we observe changes in conditions of labour employment, of trade union policy and of employee attitudes. The trend towards improved conditions of work in our factories and offices throughout recent decades is certainly unlikely to diminish unless a period of economic stringency of exceptional severity arises to counteract this trend.

Legislation in its many forms will also bring changes as it has in the past, probably tending towards a tighter surveillance over all our activities. Here again, society appears to be in the grips of an irreversible process.

Perhaps the most important industrial trend is the ever-increasing speed of development in technology, which will undoubtedly change the pattern of industrial life in the years to come. One can only hint at what the future will hold, but it certainly seems likely that the techniques of communication and control systems will revolutionize much of our daily lives, both in industry and in leisure. Technological developments will affect productivity, labour utilisation, management patterns and a host of ancillary functions in a manner, and at a speed, which makes prediction difficult.

The pattern of our future growth as an industry is vitally dependent on all the external influences referred to above. Our level of investment, for example, may be influenced by the extent of the activity within the public sector or the private sector. It will depend upon the national economy, whether strong or weak. To a lesser extent it will be subject to levels of consumer demand, but perhaps sensitive always to fashions which, even in construction, have a certain degree of influence. In a word, our future is inextricably bound up with the evolution of our environment.

The paving block industry in 1980

Having dwelt in the previous section of this paper upon the forces over which we largely have no control but which nevertheless do materially affect us and our industrial life, we now turn to the many things which we can, and do, have power to modify and exploit.

Technology

Technology is probably the area of our greatest current activity and one where we can see rapid contemporary progress and development. We already have a satisfactory grasp of our technical resources in terms of engineering and technology. We can select our raw materials and ensure their use with greater economy and efficiency. We can further improve the process of actual manufacture in ways that affect not only the product itself, but the welfare of those who produce it. Moreover, our skills will also achieve still furthef improvement in the methods of handling, transporting and laying, all of which are significant in bringing about our sucess in the service to customers and in combating the competition of other materials. It is perhaps worth observing that one of the major factors in determining the success of our further development is the extent to which we control the total process (not just the physical production of blocks), since our efficiency, our quality and our ability to serve the

customer are all directly dependent upon the quality of our management in production, promotion, research and attendant services.

Costs and prices

At this point, a brief mention of the interaction of costs and prices would seem appropriate, since it links closely with what has been said in the previous passage. It could perhaps be said that our success will depend on the following three crucial determinants; namely the utilisation ot our production resources, the marketability of our product, and the price of the product itself. To a large extent, these three are interrelated. In the context of this discussion, the price means the total cost of the finished job as paid by the ultimate consumer. It has to include the cost of production, of storage, of transporting, of laying and all aspects of servicing. The importance of price lies in the fact that we are, at every stage, judged in relation to our competition, and to succeed we have to indicate some clear overall advantage. It therefore holds the key to our future, since we can only grow if the consumer judges our product to be correctly priced in relation to others. But in making our price, we have to consider not only our current costs but also adequate allowance for replacement of assets and the provision of a return which justifies all our efforts. Without adequate provision on this account, we have a scenario not for growth, but for extinction.

Present-day market for paving blocks

To look into our future with the eye of a marketing man, it is strictly necessary to take stock of our progress to date. The task of such a summing up presents difficulties when one considers the variety of countries represented at this Conference and in which markets are undoubtedly different, particularly as to the extent of present penetration. Some paving block industries are only at the beginning of the road, whilst others are commendably a long way down it. Despite these disparities, a review of the present marketing position provides valuable pointers to the future, largely in terms of tasks yet to be accomplished. To begin with, it is useful to review our own product and how it evolved, and to this end the following brief "status report" might be helpful:

I. Taken as part of the total market for vehicular and pedestrian paving, the interlocking paving block has a minuscule share. In early days it was not taken seriously by engineers but rather provided an interesting variant of architectural design. It was the patterns and the colours that attracted above all else. (The foregoing does not apply to countries such as Holland and Belgium, however, where the history of block paving has been continuous and where the sett or pave has remained a live tradition down the years).

2. When compared to other types of paving, there are currently few sources of manufacturing supply, although the numbers of producers are growing rapidly. There is probably a barely adequate production capacity at the present time to meet growing demand. This relationship between demand and capacity may differ from country to country, but probably only in a matter of degree.

3. Traditional types of paving, not only in concrete but in other materials, continue to enjoy a strong demand and often show a price advantage over our product.

4. Competitor materials generally have existing and long-established standards for laying and installation. Our own engineering standards are in the process of evolution and as yet are not generally adopted except in one or two European countries.

5. There exists still a large number of users who have not yet acquired experience of our product and who regard it as either unconventional or even experimental.

6. In most countries, the use of interlocking blocks is largely considered as being suitable only for special situations: the product is chosen either to fulfil a prestige role or to meet some exceptional user condition.

7. Although progress towards acceptance is fairly rapid, there is still a considerable way to go before the product achieves universal •acceptance and performs a major role in paving for pedestrians, industrial floors and minor roads, covered by an acceptable national specification and with products readily available in all parts of the country.

None of the foregoing implies criticism of those who have promoted the block thus far; indeed, one observes the pace quickening towards that eventual acceptance. The size of the gap yet to be filled presents us with the most challenging task of our whole future.

How then should we view this future?

A view of the paving block industry in the coming years

In this section I shall attempt to bring together the threads from many observations of progress up to date and to paint a picture of how things might look in the years to cor^e.

Technical

On the technical side one can see all the signs of more efficient production, assisted by improved automation and control which will affect the quality of the product as well as the overall output. Methods of handling the finished product will also improve, not only in the plants themselves but out in the distribution network and even on site. A crucial factor in our long-term success will be the mechanisation of laying, which will eventually take over from the present hand methods: indeed, perhaps only on this basis will the product eventually be universally acceptable. Factors influencing our progress will include the cost of materials and of labour, of factory operations and of transport. Costs of materials, labour and transport will tend to rise, but will be compensated for by savings through improved mechanisation at all stages of the process. It is hard to predict any improvements to offset the rise in transport costs, and it seems inevitable that long hauls to site will eventually be a thing of the past. There will be a strong influence towards the multiplication of local production facilities.

Greater importance will have to be paid to the health and safety of our work people, and solutions will be found (albeit with difficulty) in combating problems of noise, of industrial injury, and of dust and atmospheric pollution. Whether the drudgery and the monotony of the workers' task can be eliminated at the same time is harder to judge; at least it will have to be attempted.

Distribution

The good reputation of any supplier is closely bound up with the ready availability of the product and the seller's prompt response to orders. A perfect match between supply and demand is easier of achievement in theory than in practice, and there will be certain problems in meeting all supply requirements now and in the future, not only because of irregular growth in demand patterns but because of the problems associated with maintaining adequate product stocks at an economical cost. Distances between factory and site will reduce as more producers become established, but the relative sophistication of the process will probably limit the global total of production centres. It is interesting to conjecture whether the production of paving blocks will lead to a predominance of larger companies with the elimination of the smaller ones or whether the reverse process will apply. The pattern likely to emerge is very much dependent upon how machinery will evolve. If giant machines involving high capital cost become the rule, inevitably only the

stronger companies will survive. If the relatively unsophisticated machine can match the larger one in terms of cost and quality, it is possible to see the smaller firms gaining the advantage. The future is relatively hard to predict since, at the present time, machinery manufacturers appear to be making satisfactory progress on both fronts.

Marketing pattern

Most of the conference delegates doubtless have their own views of how the immediate future will affect their own operations. The situation will be different in countries like Holland and Germany where blocks are well established, and in countries like USA where the real impact of paving blocks still has to be felt. Competition between existing and future producers is certain to continue. More interestingly, however, one might study the nature of this competition which could reveal many variations of pattern. Competitive offers can be made on the basis of price, of quality, of superficial appearance, of service rendered and of the ready availability of adequate supplies. Each firm will determine its own individual strengths and promote on the basis of these.

Demand for paving blocks

Before glancing ahead in time, it may be useful to plot our demand evolution thus far. It appears to have passed through three stages, which could be defined as follows:

Stage 1

The architectural phase, with small quantities being supplied, often on account of their attractions in colour, texture and shape.

Stage 2

More extensive pedestrian use and the start of load-bearing applications. Small-scale use for industrial surfacings.

Stage 3

More extensive use in engineering situations. Blocks now used for minor roads' construction and in other heavy duty categories.

In most countries, Stage 3 has been reached, but there appear two further stages needing to be looked at. These are:

Stage 4

Regular use of blocks for highway construction.

and perhaps eventually:

Stage 5

Use of paving blocks under heavy traffic conditions and at elevated speeds.

Note that each stage represents a significant enhancement in the volume of demand. Regarding the two latter stages, the impact on demand for our product in each case would result in a gigantic enlargement of our industry. It is probably safe to predict that Stage 4 could come to pass within a fairly short span of time provided that current evaluation of the product results in complete satisfaction being expressed by engineers, which to some extent will be based on observations of performance over a number of years. It would, however, involve a willingness of engineers to accept fundamental changes in road construction design.

Stage 5, perhaps, represents only a Utopian view of our more distant future. If it ever comes about, its achievement will depend upon the control of surface profile - hence the accuracy of the laying process - combined with a level of strength and durability of the first order. If this were to come about, it would perhaps be possible to conceive the use of paving block even in the construction of motorways. But this is a complex argument which turns very much on the relative costs of motorway construction, and this prospect must indeed be viewed very much with an open mind.

Indeed, a searching mind and an open mind should be the keynote of any appraisal of our future. We are all aware of the limitations of normal forecasting - and in normal planning studies within a company it is seldom possible to look ahead more than three to five years. The successful business, however, prospers by its reaction to changing circumstances, and the entrepreneur manages to profit from every opportunity. One thing is certain in the field of block paving, and that is that the opportunities we can see ahead are stimulating and give great hopes for success. The real key to our future, however, lies in how we react to these stimuli.

Conclusion

This paper comes at the end of a conference during which we have had the opportunity to learn of progress in. this fast-growing industry, brought to us by leading industrialists and researchers from a wide variety of countries. Their contribution, added to the individual efforts of every organisation represented at this conference, constitutes the power house of energy which propels us all forward into our industrial future. We have much to learn from one another and it was for this purpose that the conference was organised.

To say precisely what the future foretells cannot be the monopoly of a single author. Rather it is a task for every one of us to attempt, not in isolation but with frequent discussion with our colleagues. That is one of the important roles that the product associations have to perform, and also a reason why a permanent international bond between our national associations is essential.

What this concluding paper has attempted is not to produce a hard and fast prediction of how our industrial future will develop, but an underlining of the importance to us all of observing and gauging the many factors which constitute our industrial and social environment; some external and imposed upon us, others much closer to us and more subject to control by ourselves. Whatever adverse influences we can detect in the future, however, the rapid advances brought about by our engineers and technologists and the unremitting efforts of our marketing people point without question to a future for our industry which will bring impressive expansion coupled with improved manufacture and installation techniques. One thing is certain and beyond dispute: it is that we shall see on a world-wide scale a considerably wider use of paving blocks than any of us have experienced in the years leading up to 1980.