# VITREOUS ENAMEL COOKING UTENSILS

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Regional Economic Expansion
Expansion Économique Régionale

PLEASE NOTE

This report has been edited, where necessary, to remove comments and data that are classed as confidential. In the interest of efficiency, this has been done by simply removing small sections of the report. As a consequence, there are some blank spots which, we hope, will not interfere with the readability of the report.

Department of Regional Economic Expansion

# VITREOUS ENAMEL COOKING UTENSILS

This report follows the guidelines set out by the Industrial Development Branch of the Department of Regional Economic Expansion (Appendix A) for a preliminary analysis package on the above product.

The information asked for in Appendix A is set in elite (elite) type, followed by the answers in pica (pica) type.

TABLE OF CONTENTS

Commodity: a brief description of the commodity. i.e. sizes, composition, etc., and its uses).

There are a variety of coloured cooking utensils on the Canadian market, both plain and decorated and in order to avoid confusion, the various finishes and metals available are listed below.

| Finish | Metal | Temperature of application (approx) | Usual Number of finish Coats Applied | Decoration 1) silk screeni Usually 2 colours, some times 3 colours 2) multi colour decals |
|---|---|---|---|---|
| vitreous enamel | carbon steel (also possibly some stainless steel | 1600 | 2 | usually decals |
| Low temperature enamel | aluminum (also some stainless steel) | 1100 | 2 | The bulk is plain. Most of the rest is si screened, very little is decorated with deca |
| organics mainly acrylics (polyimides have been unsatisfactory and are being replaced | aluminum and some stainless steel | 400 | 1 | As for low temperature enamel |

This study is concerned with vitreous enamel cookware. At present, and for the last six or more years, this has all been imported and consumption has been increasing fast. It is all made from carbon steel.

There is also a large market for coloured aluminum cookware, both acrylics and, to a lesser extent low tempeature enamels. Reference is made to this market whenever appropriate.

Aluminum enamelling needs careful controls for proper application and to avoid distortion. Decorating these articles has on the whole been unsuccessful but is now improving, and the decorated product should prove popular.

Organics have had problems - heat and scratch resistance and discolouration - but are improving. However, the finish is not as resistant as enamel - there is still discolouration. The product is regarded as inferior by some buyers.

The popular range of items for vitreous enamel cookware utensils are:

| | |
|---|---|
| Saucepan | 32 oz |
| | 40 0z |
| | 64 oz |
| | 80 oz |
| | 96 oz |
| | 120 oz |
| | 160 oz |
| Skillets | 8" |
| | 10" |
| Fry Pans | |
| Fondue | |
| Dutch Oven | |
| Tea Pot - Whistling | |
| Stew Pot | |
| Baker | |
| Covered Casserole | 96 oz |

The successful lines are marketed in attractively styled display gift sets, comprising between three to nine or more pieces, including such items as covered sauce pans, dutch oven, covere skillet and double boiler. The oven cover often fits the skillet.

A. Market 1. a) Existing Canadian Production
b) Imports
c) Exports
d) Total

1. a) Existing Canadian Production

| | | | |
|---|---|---|---|
| | | NONE | in 1971 |
| b) | Imports | $3,811,000 | in 1971 (X) |
| c) | Exports | NONE | |
| d) | Total | $3,811,000 | in 1971 |

2. a) Consumption - Growth of Imports (no Canadian production of vitreous enamel cookware)

| | |
|---|---|
| 1964 | New Classification |
| 1965 | 755,000 (X) |
| 1966 | 953,000 (X) |
| 1967 | 1,360,000 (X) |
| 1968 | 1,903,000 (X) |
| 1969 | 2,669,000 (X) |
| 1970 | 2,380,000 (X) |
| 1971 | 3,811,000 (X) |

This represents an average annual growth of 32% comsumption over the last six years.

Note:- Figure (X) supplied by Statistics Canada and substantiated by major buyers and purchasing agents.

Regional Sales

No statistics are available.

Survey of buyers and purchasing agents of major retail outlets indicates the following distribution:

| | |
|---|---|
| Ontario | 60% + |
| Quebec | 20% |
| Prairies & Western Provinces | 15% |
| Maritimes | 5% |

Note:- information gathered from: Simpsons, Eatons, Simpson-Sears, various hardware stores, Woolco, Consumers Distributing.

2. b) Projection of Market Growth

| | Imports | Canadian Production | Exports |
|---|---|---|---|
| 72 | 4,400,000 | - | - |
| 73 | 5,000,000 | - | - |
| 74 | 5,000,000 | 500,000 | - |
| 75 | 5,000,000 | 700,000 | 100,000 |
| 76 | 4,700,000 | 1,000,000 | 200,000 |

Note:- This projection is very conservative, representing an average growth rate of only 9.3% over five years.

B. Canadian Production- who are major producers
- concentration - geographic
- size

There is no Canadian production of vitreous ceramic cookware. Production in Canada includes one manufacturer of low temperature enamel cookware and several using a coloured organic finish.

West Bend is the only known manufacturer of enamel cookware (low temperature) in Canada. The Company is located at Barrie, Ontario, about 60 miles north of Toronto. It is a subsidiary of a U.S. company, manufacturing both steel and aluminum cookware.

Enamelled ware is mainly on aluminum, the rest on stainless steel. In addition, the Company imports vitreous enamel decorated steel cookware from Europe, mainly Spain and Czechoslovakia.

Its distribution pattern probably follows that of the regional sales pattern tabulated above.

For comparison, and in order to bring the enamel cookware into perspective, the overall Canadian production (shipments to customers) of cookware over the past five years has been (according to Statistics Canada):-

| | Aluminum | Steel | $000's Total |
|---|---|---|---|
| 1965 | 7,399 | 4,748 | 12,147 |
| 1966 | 8,582 | 6,154 | 14,736 |
| 1967 | 9,669 | 5,220 | 14,889 |
| 1968 | 9,015 | 4,925 | 13,940 |
| 1969 | 12,178 | 5,426 | 17,604 |
| 1970 | 10,170 | 4,486 | 14,656 |

Imports over the last few years have been:-

| | | Vitreous Enamel Steel | Aluminum | Steel | Total |
|---|---|---|---|---|---|
| 1968 | - | 1,903 | 1,849 | 1,381 | 5,133 |
| 1969 | - | 2,669 | 1,861 | 1,885 | 6,415 |
| 1970 | - | 2,380 | 2,428 | 1,655 | 6,463 |
| 1971 | - | 3,811 | 2,739 | 1,990 | 8,540 |

Total exports in 1971 were $1,366,000.-

Note:- figures from Statistics Canada.

Summary of data and opinions of responsible buyers for retail outlets controlling between 40-50% of the total Canadian cookware market.

Buying Habits

X Major houses carry 4-6 patterns of enamel cookware.

X Preference is given to attractive display sets.

X No one has guidelines as to what constitutes a successful design, but good colour and design are essential.

X A distinctive Canadian enamel design (or series of designs) would be welcome - but not such obvious things as the flag or maple leaf.

X A Canadian manufacturer would be welcome, if it makes economic sense.

X The design has to be all around the article.

X Rims of articles have to be protected with stainless steel.

X The coloured cookware market breaks down approximately into:

40% aluminum, coloured with acrylic, polyimide, or low temperature enamel,
60% steel vitreous enamel - nowadays, this is practically 100% decorated (and all imported).

X The buyers all agreed in general with the figures from Statistics Canada. Their estimates of their purchases of enamel cookware varied from 15-25% of their total purchases.

X Their estimates of total import purchases of cookware varied between 30-40% of their total purchases.

X Over the past few years, there has been, and still is, a growing customer preference for decorated enamel steel, providing it is well coloured and designed. It seems to appeal particularly to the younger consumer. One major buyer suggested that this could be a fashion and that this upsurge in demand could level out and perhaps even reverse itself. However, this does not take into account the increasing market of enamelled and decorated aluminum ware.

X Decorated enamel looks attractive, cleans well, and is competitively priced. There are occasional complaints of chipping- this does not seem to apply to the low temperature enamel on aluminum.

X Heavy (cast) aluminum and stainless steel are superior for heat transfer, cleaning, however, they are more expensive.

X Turkey roasters are a heavy Christmas item, otherwise, most ware is year round with some Christmas peaking.

Relevant data for possible new facility:-

X Major houses carry 4-6 patterns of enamel cookware.

X Some patterns sell as few as 1,000 sets per annum, but most run about 5,000 sets per annum or more.

X Major houses need at least one captive pattern.

X Most patterns should last 2 years +, with successful patterns quite a bit longer.

X Retail mark up varies between 33% and 100%, depending on 1) the house, 2) point of origin, 3) supply and demand and other special circumstances. There seems to be generally a lower mark up in imported decorated items.

X $30.00 appears a reasonable price to the buyers for a quality 9 piece set, well designed and merchandised in an attractive display set.

X The U.S. market is almost identical to the Canadian. The great majority of this merchandise is imported. Only two manufacturers of vitreous enamel cookware exist, Federal Enamel and Stampings, and General Housewares, Indiana. However, at least one other company, Echo, will shortly be entering the market due to the new development of economic decorating on aluminum. There is apparently a definite trend in the U.S. of replacing enamel imports with domestic production.

Note:- Most of this information was obtained from Eatons, Simpsons, and Simpson Sears.

One major manufacturer was interviewed but wishes to remain unidentified.

B. Conclusion: Will the market support an expansion or new facility? Identify whether the market potential is for Canadian market, export market or import replacement.

The market can support a Canadian manufacturer, and would welcome one. Production from a new Canadian facility would be primarily import replacement. A really successful design would probably also sell well in the United States.

Emphasis would have to be placed on shape, design, colour, and quality, rather than quantity. Collaboration with top industrial designers would be essential.

Apart from import replacement of steel enamelled ware, there is an excellent opportunity of participation in the growth of aluminum low temperature enamel, decorated ware.

The extent of the likely market penetration, the policy and aims of such a manufacturer, will be discussed under E below.

C. Cost: 1. Identify major costs in producing the product and delivering it to a market.

| | % of Sales |
|---|---|
| Raw Materials | 29.0 |
| Labour | 19.0 |
| Management, administration | 11.8 |
| Inhouse processing | 8.2 |
| Marketing | |
| Salaries, travel | 7.2 |
| Commissions | 4.0 |
| Transportation | 5.8 |
| | 85.0 |

2. Tariffs for imports and exports

Imports 43210-1 Holloware, enamel on steel or iron - 17.5%, except UK 15%

B5405-1 Holloware, on aluminum - 17.5% except UK 15.75%

Exports 653-97 wares, enamelled or glazed to U.S.A. - 1¢/lb + 2.5% on value

D. Location: 1. Identify major factors required by a firm in selecting a site.

a. Resource oriented

b. Market oriented

c. Other

1. Major factors regarding site selection:

a) Resource oriented:-

| Major materials | | Point of origin |
|---|---|---|
| Sheet carbon steel, drawing quality | - | Hamilton |
| Displays, shipping cartons | - | Toronto, Montreal, Maritimes |
| Plastic handles | - | Main Canadian Cities, possibly USA or Europe |
| Enamel | - | Oakville, Ontario, Cleveland, Ohio Chicago, Illinois |
| Decals | - | New York State, Toronto, Ontario possibly Europe |
| Aluminum Sheet | - | Kingston, Ontario |

The major materials should not present a significant penalty within the context of locating in certain special or designated areas.

Proper management and particularly purchasing management are needed for stock control.

Supplier technology backup is sometimes significant in the establishment of a new business and this should be kept in mind as one of the many factors to be considered, but not as a major factor.

b) Market oriented:-

The head offices of the major retail outlets and distributors are in Toronto and Montreal.

The bulk of the marketing efforts will have to concentrate in these centres and to a lesser degree in the other large urban areas across Canada.

In terms of locating in a designated region or special area, easy accessibility to the Quebec market could be a significant advantage.

c) Other:-

1) Labour - production of high quality merchandise is essential. A variety of combinations or production operations is possible for cookware manufacture. The process envisaged requires a low level of skill but conscientious application. A good, hardworking pool of labour is essential - most of the operations are repetitive and working conditions not particularly attractive.

2) Technology:- accessibility to centres of technology or availability of skill in the following fields would be advantageous:

ceramic technology - frits and enamels
fuel technology
instrumentation
machine shop practices.

3) Existing metal fabricating capacity in a special area:- Review of the industrial facilities for

metal shaping and stamping in the designated region or special area may be significant. If sufficient spare capacity is available, then a profitable arrangement may be possible to sub-contract all or part of the pan production, and concentrate on enamelling and decorating initially.

D. 2. Transportation as a locational factor

a) Freight cost comparison

The difference in annual transportation costs from two hypothetical plant locations (Toronto and St. Johns, New Brunswick) supplying the Canadian vitreous enamel cooking utensils market would be about $5,000.- per $100,000.- of sales. This very rough calculation is based on typical shipping patterns for the volume envisaged. This penalty would be considerably reduced, if a Quebec location is considered.

b) Speed of reaction to customer requirements

Locations anywhere in Canada will be superior to almost all response time by present importers - 76% from Europe, 24% from the U.S.A.

D. Location 3. Identify linkage patterns

4. Identify regional locational possibilities

Implication for Industrial Development within Designated Region and Special Area

X Direct employment for 10-13 men, 10-11 women, initially.

X Local service labour needed for:-
- instrumentation
- fuel technology

X Preferred University linkage on R & D (ceramics)

X Acquisition of skills
- metal forming - spinning
- stamping
- enamelling, decorating

X Local supplies
- transportation - total movement about 500-600 tons per annum, by truck
- sheet steel (possible)
- cartons (30-50,000 per annum)
- plastic handles and parts (likely)

X Plant site - 3 to 6 acres

X Plant size - about 15,000 square feet

X Enterprise could be a possible component of a cluster of new industries with common (ceramics) technology.

E. Strengths/Constraints:

1. Identify, other than above, significant strengths and/or constraints that would affect the effectiveness of a potential manufacturing facility.

+ve New plant would be specifically designed for the planned product lines. This would result in minimum cost per unit and give the new facility a competitive edge.

+ve The decorating line (decals) in particular would be set up very carefully for automation, both for steel and aluminum.

+ve This would be import replacement - considerable good will from major purchasers, providing quality, etc. Pool of local technology and services available for problem solving.

-ve Relatively low overall volume for coast to coast sales. This would have to be carefully organized.

+ve In comparison, the present imports are all widely scattered and must be far more difficult to sell than the proposed Canadian production.

+ve This proposed plant would be acquiring process technology and a variety of skills particularly in enamel and metal shaping field. Good management should be able to use these skills for diversification into related profitable fields.

-ve Shift in customer preference is possible to stainless steel, cast aluminum and coloured utensils (acrylics).

+ve The bulk of purchasing agents of house wares and the general public are as yet unaware of the advance in technology regarding decorated aluminum enamel ware. This new facility would be able to take advantage of this market.

+ve There are occasional customer complaints of enamel chipping. This should be turned to advantage by maintaining rigorous quality standards.

+ve The marketing strategy of the Company should be to provide a distinctive prestige line, and not to enter the low price market, which has only a fair reputarion. There is need for a medium priced quality line, especially if it is recognized as Canadian.

+ve In terms of growth and development, the Company should also concentrate on two other points:-

1. Customers are ignorant and/or confused about what they are buying in the housewares field. The Company should educate buyers and the public about getting value for money.- For instance, discount houses are getting smaller pans, but not really charging less per volume.

2. Present enamelling techniques use two coats almost universally. It is believed that satisfactory one coat enamelling should be possible after some development work. This would provide a further competitive edge.

F. Conclusion:

- Summary of above data presenting a concise evaluation of the potential, with specific emphasis on the positive aspects.

The establishment of a vitreous ceramic cooking utensils plant will fulfil a need, reduce imports into Canada, and, provided it is carefully conceived and planned, be a profitable undertaking.

The initial scope should be limited to that portion of the market which can be obtained with a high degree of probability, about 10-15% of the total enamel market, and its main aim will be products of distinctive design and overall high quality.

Enamelled and decorated steel cookware is very popular at present and demand is still rising. At some point in the future, there could be a shift to cast aluminum and stainless steel. It is believed that this possible overall reduction in the market will be more than counterbalanced by the fact that techniques are now worked out for enamelled and decorated aluminum ware. Skill in enamelling and decorating on both steel and aluminum would therefore be a key to obtaining and increasing the new Company's share of the market.

It is difficult to estimate the magnitude of the opportunity. Strictly within the parameter of this study (vitreous enamel cooking utensils), the probable sales are estimated at 10% of the present market, about $500,000.- in the first or second year of operation, rising to possibly 20-25% in the third or fourth year.

If prestige high quality lines are established in both steel and aluminum, then it is estimated that the volume should reach $1,500,000.- in the fourth or fifth year.

In addition, sound aggressive management should achieve some exports to the U.S.

Under A Market, it can be seen that growth of the vitreous enamel market has been averaging 32% over the last six years. The projections for future growth is very much more conservative, averaging only 9.3% per annum. Higher growth figures are likely and this will increase the Company's sales potential further.

Further studies are needed to evaluate various possible options which may be open to this enterprise. For instance, arrangements might be worked out with another manufacturing concern in the same general area for some or all the metal working operations, if such equipment is available and free time exists.

Transportation costs might be reduced significantly if regular trailer loads can be organized, without hurting sales.

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Assuming that a plant were to be set up to manufacture enamel and decorate steel and aluminum cooking utensils, capable of producing $500,000.- annual volume, with some capacity for expansion, then the following approximate data should apply:-

X Cost of land, building and plant - $6-700,000.-

X Approximate break even without any incentive help would be at annual sales volume of $480,000.- to $500,000.-

X Total labour required for annual volume of $500,000.- is 20-24.

X Estimated profit and return before taxes, assuming DREE grant and sales at $750,000.-
Profit on sales 7-8%

Return in investment 20-30%

Note:- The cost breakdown under C 1 (page11) of this report is related to a plant producing $500,000.- worth of vitreous enamel cookware. Depreciation and financial charges could be about 15% which would make $500,000.- the break even figure.

There are many variables which will affect these figures and a study in depth is needed to produce a projection which and investor would have to have in order to decide on the feasibility of the project.

Due to the limited scope of the study, assumptions have had to be made regarding suitability of equipment. Further work is needed to assemble the most efficient combination of equipment for working two different metals and two different enamelling processes. This is essential in order to provide the flexibility needed for the Canadian market.

Note:- Process technology would be developed in enamelling decorating, and metal spinning and stamping. Growth of this enterprise, therefore, should make use of these acquired skills and diversification possibilities are:

| | enamel | metal working |
|---|---|---|
| some household articles | X | X |
| lampshades | X | X |
| specialties | X | X |
| chalkboards | X | X |
| industrial: | | |
| glass lines water tanks | X | X |
| wire take up spools | | X |
| water heater tops | | X |
| reflectors | | X |
| air conditioning parts | | X |

The plant installation should be planned with diversification into some of the above fields in mind, leaning more towards metal spinning, for quality and versatility. Automatic decorating will be essential in order to produce competitively and this will be a valuable skill which the enterprise can use in other fields.