

Case Studies III - Successful Use of Industrial Property Information in Solving Production / Product Quality Problems by SMEs - Malaysian Experience

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1. AVAILABILITY OF INFORMATION SERVICES IN MY

- **National Intellectual Property Office**
- **SIRIM Patent Information Service**
 - **Patent library service for public**
 - **Value-added Patent Searches**
 - **SIRIMLINK - A database of Malaysian patents**
- **End-users searching foreign databases via Internet**

2. OBJECTIVES OF SIRIM PATENT SERVICE

- **For use by SIRIM's own Researchers**
 - **SIRIM : A Government-owned R&D corporation with close linkages with industries**
 - * **Advanced Manufacturing**
 - * **Advanced Materials**
 - * **Chemical & Industrial Biotechnology**
 - * **Environmental & Energy**
 - * **Etc.**

2. OBJECTIVES OF SIRIM PATENT SERVICE (*Cont'd*)

- **Free library service for public users, which include**
 - **Inventors & research workers**
 - **Engineers / technicians from industry**
 - **Patent consultants**
 - **Entrepreneurs and corporate managers**

3. FACILITIES FOR SEARCHING BY PUBLIC USERS

- **Computer terminals for users**
 - **On-line search via Internet**
 - **CD-ROM products search**
 - * **USPTO documents**
 - * **EPO documents**
 - * **PCT documents**
- **Computer terminal to access MY patents**
- **Searching by microfilms**
 - **US patents**
 - **Malaysian patents**

4. CASE STUDY - ACTIVE USER OF PATENT INFORMATION

- **The Company - Rica Industries**
 - **Typical SME by Malaysian definition**
 - * **< 150 workers**
 - * **< RM25 million annual turn-over**
 - **Business nature : Manufacturing / Sale of chemicals**
- **Nature of technical problems encountered**
 - **Manufacturing of own new chemicals for sale**
 - **Providing consultancy service for customers in production & quality control processes**

5. COMPANY'S EXPERIENCE IN USING PATENT INFORMATION

- **Company's remarks : “.... (At the beginning of our business operation), we used to purchase chemical formulations and expertise from foreign technology firms This method of operation of the business did not bring in much profit because a big percentage of our profit actually used up in paying for royalties to the licensors. There was little we could do then because we lacked the expertise and experience in the area of manufacturing chemicals.”**

5. COMPANY'S EXPERIENCE IN USING PATENT INFORMATION (Cont'd)

- **To reduce royalty payment and raise profits, Company established its own R&D department having objectives**
 - **Research & develop own chemical formulations**
 - **Manufacture and sell new chemical products**
- **Frequent user of patent information for R&D projects**
 - **Chief chemist : “I find patent information exciting. Different patents teach me different ways of solving problem.”**

5. COMPANY'S EXPERIENCE IN USING PATENT INFORMATION (Cont'd)

- “Patent documents give me new ideas. This method of doing R&D suits my type of technical consultancy and manufacturing business. All these years, patent information has actually helped me build up my expertise and confidence in dealing with technical problems which I encounter from time to time”
- Company has a few success stories in developing new chemicals with the help of patent information

6. HOW PATENT INFORMATION SOLVE PROBLEM

Background :

- In metal cabinet manufacturing industry, conventionally, mild steel metal sheets need to be treated with iron phosphate material in heat chamber, which operates in temperature range of 50 - 70°C. After said treatment, the metal sheets are to be painted.
- The problem - The construction of heat chamber and its maintenance incur high costs. The problem is how to avoid the heat chamber procedure.

6. HOW PATENT INFORMATION SOLVE PROBLEM (Cont'd)

- Therefore, a technical solution is wanted : To develop a new chemical formulation such that it can be used to treat metal sheets with iron phosphate under normal room temperature condition. In this way, there is no need for a heat chamber and hence saving in operation cost.

7. R&D TEAM STARTED TO COLLECT INFORMATION

- Collected information from technical journals / publications
 - Metal Finishing magazine
 - Surface Treatment Technology
 - European Surface Treatment
- Conducted patent searches
 - At SIRIM Patent Information Service

8. PATENT SEARCH REPORT WITH CITATIONS

Among the many patented solutions, there are

- **US-A 3,060,066 - Wilford**
This invention relates to improved phosphate coating compositions and a method for producing phosphate coatings on metallic articles, especially for use on ferrous metal surfaces.
- **US-A 4,017,335 - Maloney**
Liquid phosphatizing composition with salt concentrates which is well suited for automatic dispensing of a phosphatizing spray or make-up solution and is efficient at low temperatures.

8. PATENT SEARCH REPORT WITH CITATIONS (Cont'd)

- **US-A 4,149,909 - Hamilton**
An iron phosphate accelerator which is used in phosphatizing ferrous metal at low temperatures to produce an iron phosphate coating with good salt spray resistance.
- **US-A 5,137,589 - Kinkelaar**
A method and composition for depositing heavy iron phosphate coating on ferrous substance. Such method ensures that the coating is non-powdery or dust free and largely satisfactory for paint pre-treatment.

9. VERIFICATION ON PRIOR ART DOCUMENTS

- Company's comments: "Some (prior art embodiments) worked. Some did not work satisfactorily. But, I am least bothered. What is important are the clues or ideas given in the prior art documents."
- "In the process, we obtained many good ideas and clues in solving the problem at hand. We valued them all."

9. VERIFICATION ON PRIOR ART DOCUMENTS (Cont'd)

- "We combined the valuable ideas found in patent documents with our own research and ideas of solving the problem. We did many experiments. In this regard, patent information provided us with the various possibilities of tackling the problem, a short-cut in problem solving process."

10. A TECHNICAL SOLUTION FOUND IN 3 MONTHS

What the researchers of Company have done :

- **Patent searches on prior art**
- **Verification of prior art embodiments**
- **Combine patent information with other resources**
- **Experimentation for new formulation and testing**
- **Solution found & start of production**

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