



Inspiring Excellence

**Internship Report on**

***Flexo & Gravure Ink Market Research***

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## **Letter of Transmittal**

8<sup>th</sup> Dec, 2015

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Submission of Internship Report

Dear Sir,

With great pleasure, here I submit my internship report on “Berger Paints Bangladesh Limited” working under its Marketing division that have approved & assigned as a compulsory requirement of the BUS 400 course. I have tried my level best to do the research work that I was assigned by my supervisor on Berger Paints Bangladesh Limited.

The report contains the research work with detail information like current market, future market, competitors, importers, traders, local manufactures, and packaging companies.

I would like to thank you for your continuous support, guidelines & observation of my works which made it easy for me as well as provided knowledge of learning in practical.

Sincerely,

Fahim Rahman Aelham

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## **Acknowledgement**

First of all I would like to thank Almighty Allaah to help me fulfill this report. A warm felicitation goes for me to acknowledge the people, who hold the desirability for encouraging, praising, assisting as well as believing me throughout my internship period at Berger Paints Bangladesh Limited. I would like to thank my supervisor Reina Ashfin Khan, (Marketing research manager and consumer insight) for helping me and guiding me to do what I should as I have no experience in the corporate world. I would like to thank all the other members of the marketing department as well as the other departments of Berger as they were very helpful and friendly towards me through my journey.

I would like to take the opportunity to thank Mr. Tahsan Rahman Khan for guiding me to make this report. Without his help it would never be possible.

Finally I will show my gratitude to my family, friends as well as the entire team who somehow have impact on me in completing my whole report.

## Executive Summary

Ink market in Bangladesh is growing parallel to the growth of printing and packaging material industries. There is significant demand of various types of industrial ink in Bangladesh, such as Flexo Ink, Gravure, Offset, Screen Printing Ink and Letterpress Printing. In this study, focus was mainly given on Flexo and Gravure ink as market size of those ink are quite substantial. The study covered ink producers, cement companies, packaging companies, importers, ink association and packaging association to collect all types of information regarding this industry. From the study, the estimated annual market size of Flexo ink in Bangladesh is 5444 M.Ton in volume and BDT 188.44 Crore in value and Gravure ink is 10,509 M.ton in volume and BDT 370.65 Crore in value. Out of 15 major ink producers in the country, 5 ink manufacturers currently produce Flexo ink and Gravure ink. The big users of Flexo ink in Bangladesh are WPP bag manufacturer companies. Bengal poly and paper sacks, Paragon Limited, Khan Brothers are major WPP bag manufacturers. The major ink users of Gravure are the food packaging companies and among them Premafelx, BRAC printing, Mecca Multilayer, Arbab Poly are the bigger ones. Some cement manufacturers produce their own packaging in their plants, they use Flexo ink to print on their packaging. Seven rings cement, Shah Cement, Desh Bondhu Polymer, and Tiger Cement etc. are some of the companies that are using Flexo ink. Some of the Gravure ink users import the raw materials from outside and hire chemist to make their own ink in Bangladesh. These packaging and cement companies directly import major portion of their Flexo and Gravure ink requirement. Ink and Thinner are complementary goods. Almost all of the thinner are imported from outside of Bangladesh as there are no good thinner manufactures here. From the study, the market size of Thinner for Flexo printing is 7777.14 M.ton / year in volume and BDT 145.24 Crore in value and for Gravure printing is 12892.77 M.ton /year and 232.75 Crore in value. Many big companies like Premaflex wants to inspire the local ink manufactures to make quality ink as the local ink is not yet as good as imported. They would prefer buying from local rather than import but as they really care about quality printing they still don't buy. As Berger Paints has the technological capacity, so it can explore the whole ink market in near future.

## Table of Content

<u>Topic</u>	<u>Pages No.</u>
<b>Background &amp; Objective of the report</b>	<b>6 - 7</b>
<b>Methodology , Data Collection instruments</b>	<b>7 - 8</b>
<b>Limitation of the Study</b>	<b>9</b>
<b>Overview of printing ink in Bangladesh</b>	<b>10 - 13</b>
<b>Flexo Ink</b>	<b>14 - 27</b>
<b>Gravure Ink</b>	<b>28 - 33</b>
<b>Thinner Market</b>	<b>33-35</b>
<b>Conclusion</b>	<b>35</b>
<b>List of Acronyms</b>	<b>36</b>
<b>References</b>	<b>36</b>

## **Background of the Report**

The study attempts to make an exploration of Ink market in Bangladesh. The study focused on this particular types of ink, as users of Flexo and Gravure ink is relatively big and the market is growing and it will also grow in the near future. Moreover Berger Paints is currently contemplating the possibility of producing this particular type of ink commercially.

To understand the market for Flexo & Gravure ink, the study concentrated on four different stakeholders, which are importers (who import for trading in local market), users in cement industry, local producers of Flexo & Gravure ink and packaging industries. Four different questionnaires were used to for different segments. It was difficult to get a clear idea about the importers who trade ink. Firstly, there were no formal source like importers' association or website to identify the importers who are importing ink for trading purpose in particular. From ink users, only 3 such importers could be identified. Most importers not only import Flexo & Gravure ink, but also many types of other inks and chemicals, thus Flexo & Gravure ink importers cannot be identified from customs source. Industry volume / value and market share of imported Flexo & Gravure ink is difficult to derive as many companies are importing ink as raw material for own consumption through "Bonded Warehouse" facility, but they are illegally selling in local market. Cement industry previously was fully dependent on the imported ink. Nowadays, the cement bag manufacturing companies are buying some portion of their requirement from the local producers.

Local producers are lagging behind because of the high price of their product, some quality issues like their glazing, sharpness, longevity which are yet not able to satisfy the needs of the packaging companies. Importers are getting some "Bonded Warehouse" facility, so that it is tough for the local manufacturers to compete with them in terms of pricing.

Packaging industry is more dependent on imported ink. Most of the packaging companies directly import the major portion their requirement of their Flexo and Gravure ink

## **Objective of the Report**

The study has been undertaken with the following objectives:

- ❖ Estimated current total size of the Flexo & Gravure ink market in terms of volume and value.
- ❖ Exploring Flexo & Gravure ink market dynamics.
  
- ❖ Future prospect of Flexo & Gravure ink including other inks in Bangladesh.
- ❖ Source of the procurement of the ink (local or import, distributor etc.)
- ❖ Grades/ quality and prices of locally produced and imported “Flexo & Gravure” ink.
- ❖ Payment Structure and Credit Policy for the dealers and consumers of ink products.

## **Methodology**

The primary data had been collected from different sources:

- ❖ In-depth interviews were conducted with various managers, employees of different ink manufacturers, cement companies, importers and packaging companies. Interviews covered representatives of:
  - 5 local producers of ink in Bangladesh.
  - Several packaging companies
  - 9 cement companies
  - 3 importers of trading business
  
- ❖ From FBCCI ink association’s location and contact person was obtained the secretary and president of the Bangladesh Ink Association.
- ❖ Interviewed a supplier of raw materials to ink producers.

- ❖ Collected information about the standing committee members of packaging company from the Bangladesh plastic goods manufacturer & exporters association (BPGMEA)
  
- ❖ Visited the famous local Ink traders called Comilla Hardware to get import information.

Secondary data had been collected from following sources:

- ❖ Data collected from previous study.
  
- ❖ List of producers from ink manufacturers association
  
- ❖ Newspaper reports on ink producers and users.
  
- ❖ Packaging materials manufacturer list has been collected from the members list of BGAPMEA.
  
- ❖ Cement industry list collected from CEMS conference papers and IDLC research reports.
  
- ❖ Additional data for future forecasting collected from CEMS conference papers.

### **Data Collecting Instruments**

- ❖ Prepared four structured questionnaires which have been considered as the major tool of conducting this research.



### **Limitations of the Study**

- ❖ The ink producers, importers/traders and packaging industries are informal by nature, thus data were not well organized or available.
- ❖ There was no viable source to identify the importer/traders comprehensively.
- ❖ From the BGAPMEA a list of 5000 packaging companies were obtained. These included companies involved in various types of packaging and it was not possible to narrow down which companies were involved in Flexo, Gravure printing in particular.
  
- ❖ Many of the respondents were reluctant to share information about import of ink as they take undue advantage of bonded warehouse facility.
- ❖ Respondents had to be approached several times and several visits had to be made to the same company / respondent to get information. Respondents were often busy or didn't have organized data.
  
- ❖ Many companies did not want to share confidential information like production volume/value, raw material consumption etc.

## **Overview of Printing Ink Market of Bangladesh**

Ink is a liquid or paste that contains pigments or dyes and is used to color a surface to produce an image, text, or design. Ink can be a complex medium, composed of solvents, pigments, dyes, resins, lubricants, solubilizers, surfactants, particulate matter, and other materials. The ink's carrier, colorants, and other additives affect the flow and thickness of the ink and its appearance when dry.

Printing inks are broadly distinguished by the printing process in which they are used. Letterpress and lithographic inks are known as paste inks and are of higher viscosity than the flexographic and gravure inks, which are called liquid inks.

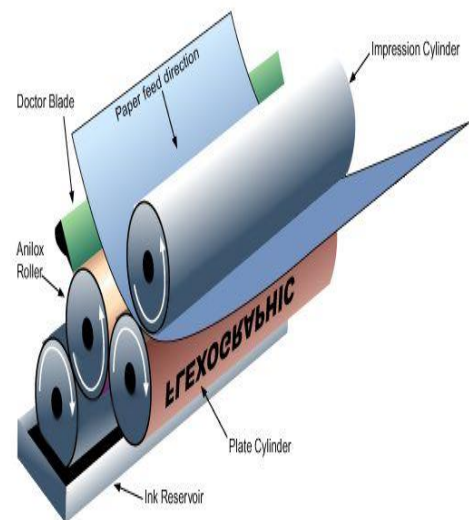
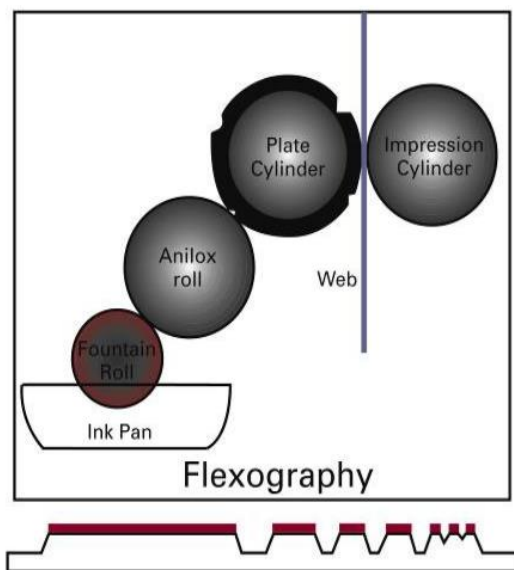
Various types of printing ink are used in Bangladesh. The major printing processes are classified by the method of image transfer and by the general type of image carrier employed. Depending upon the process, the printed image is transferred to the substrate either directly or indirectly. In direct printing, the image is transferred directly from the image carrier to the substrate, examples of direct printing inks are following:

- ❖ Flexo ink
- ❖ Gravure ink
- ❖ Screen Printing ink and
- ❖ Letterpress printing ink

Printing inks are broadly distinguished by the printing process in which they are used. Flexographic and Gravure inks are called liquid inks and have lower viscosity. Letterpress and Lithographic inks are known as paste inks and have higher viscosity than the liquid inks.

### Flexographic Printing:

Flexographic printing is a direct, raised type, printing process in which the printing elements are higher than the non-printing parts of the printing form. Flexography (Flexo) printing uses a raised-image printing plate. Photopolymer, or rubber, plates are used to transfer the print image. Conventional liquid or sheet photopolymer plates are used for line art. Laser-imaged, direct-to-plates (DTP) are used for all four-color process, all duotone, and most halftone images. As the plate cylinder rotates, it comes in contact with an anilox, or ink roller, which inks the raised portion of the printing plate. The plate then transfers the ink to the web, or paper. The anilox roll is laser-engraved with thousands of recessed cells that fill up with ink. The doctor blade controls the ink transfer to the plate. The doctor blade wipes off all ink except what is in the cells of the anilox roll. Compared to offset printing, this method offers significantly more ink transfer. (Refer to diagram below).



Flexography was first called aniline printing because early flexographic inks contained dyes derived from aniline oil--a liquid extracted from the indigo plant. These dyes were dissolved in spirits, making a quick-drying ink. The combination of a flexible plate, quick-drying ink, and the ability to print on such a wide variety of materials or substrates made this process excellent for package printing.

### Application:

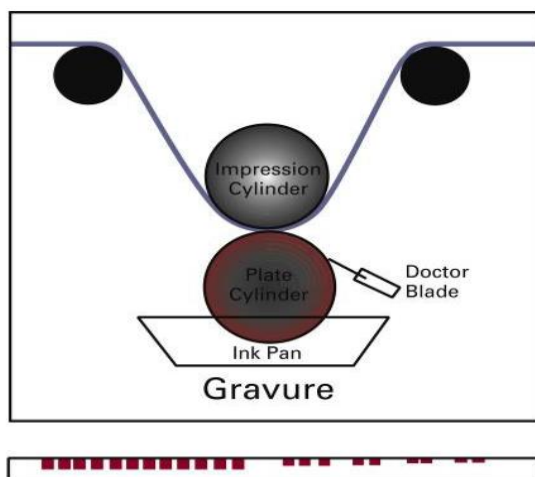
Flexography is the major process used to print packaging materials. Flexography is used to print corrugated containers, folding cartons, multiwall sacks, paper sacks, plastic bags, milk and beverage cartons, disposable cups and containers, labels, adhesive tapes, envelopes, newspapers etc.

### Gravure Printing:

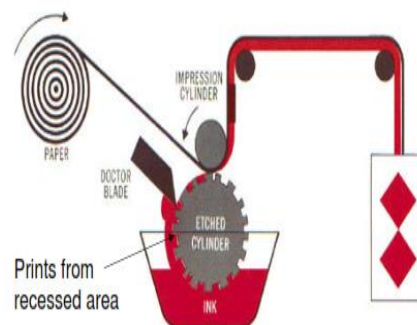
Gravure printing is characteristically used for long run, high quality printing producing a sharp, fine image. Gravure printing is an example of intaglio printing. It uses a depressed or sunken surface for the image. The image areas consist of honey comb shaped cells or wells that are etched or engraved into a copper cylinder. The unattached areas of the cylinder represent the non-image or unprinted areas. The cylinder rotates in a bath of ink called the ink pan.

As the cylinder turns, the excess ink is wiped off the cylinder by a flexible steel doctor blade. The ink remaining in the recessed cells forms the image by direct transfer to the substrate (paper or other material) as it passes between the plate cylinder and the impression cylinder.

Gravure is a direct printing procedure.



■ Cylinder has tiny cells that hold ink for printing



The Ink formulations of Flexo and Gravure are almost the same. Only in viscosity is the difference. Flexographic inks are liquid inks, rather than pastes, and are designed to dry quickly primarily by evaporation. Both solvent- and water-based ink systems are used extensively in flexography. Gravure inks are similar to flexographic inks except that ketones and aromatic hydrocarbons can be used as solvents, providing much greater latitude in the selection of binders.

**Application:**

Gravure ink is used to print on polyester sheets of different types- PP, LDPE, HDPE, LLDPE, BOP. These packages are used for dry food items, washing powders/detergents, non-food items, pharmaceuticals, cosmetics, chemicals.

Local producers of Flexo & Gravure ink are not well established so far and their production capacity is not enough against the local demand of ink. At the same time direct importers of Ink are not the major suppliers among the packaging companies. Some big packaging companies are using the “Bonded Warehouse” facility for importing ink from outside and most of them are importing ink on their own as they said the local ink are not good enough to satisfy their needs.

Recently some of the big cement companies are using locally manufactured ink and a good number of packaging companies those who used imported ink before, are now using local ink to ensure smooth distribution of the local producers. One of the biggest producers of local ink “Danesh” also gives technical support to their customers in case of any problem.

According to the market information main drawbacks of local production in Bangladesh is the lack of sufficient capital for expanding business and high interest rate against taking bank loan. Very recently Nishan Paints owner has withdrawn his capital from Crown ink limited and established his own business. Thus, it can be assumed that competition is strong in local ink manufacturing business and the local producers have confidence that this sector will grow rapidly in near future.

Berger Paints will get a good business opportunity by entering into the Flexo & Gravure ink market through establishment of its own production facility.

## **Flexo Ink**

### **Market Size (Volume & Value)**

To derive the market size of Flexo ink in Bangladesh, four segments have been considered.

These are:

- Local Production for Flexo ink in Bangladesh
- Import by traders for supplying to packaging industries and cement pack printing plants.
- Direct import by packaging industries.
- Direct import by cement pack printing plants.

Combined volume and value of these four segments will give the market size of Flexo ink within the scope of our study.

- ❖ The study covered 5 local producers of Flexo ink who contribute almost all of the local production. These producers are supplying to industries and cement pack printing plants.
- ❖ Import volume of three (3) importers (Traders) have been obtained. Although holistic information on this sector could not be obtained, Information from industry insiders suggests that these importers cover nearly 60% of the import of Flexo ink by the trading business.
- ❖ The study covered almost 80% of the direct import by the Cement industry for its own packaging material plant.
- ❖ The study directly interviewed representatives of 7 packaging production companies and collected information on ink requirement of 4 other packaging companies. The combined contribution of these 14 companies is around 60% according to industry representatives.

	Survey Data		Extrapolated Data	
Industry	Amount(Collected in ton yearly)	Amount value in TK (Cr)	Amount(volume in ton yearly)	Amount value in TK (Cr)
Local Producer	2178	91.74	2178	91.74
Importer(Trader)	450	15.75	750	26.25
Import in Cement Industry	189	5.29	236	6.61
Import by Packaging	1368	38.3	2280	63.84
Total	4185	151.08	5444	188.44

### **Market Growth:**

There has been a massive increase in the use of Flexo ink over the past five years and there is every indication that this will continue. According to Monir Hossain, CEO of Danish Private limited, the use of Flexo ink would increase 25% in Bangladesh in next 5 years and according to Biplob Dey, Manager (Sales and Marketing) of Access BD (Importer) the use of Flexo ink would increase 15%-20% within next five years.

**Importer/Trader:**

In this segment, the study covered the import of Flexo ink by traders for supplying to local market. However it was difficult to identify such importers/ traders exhaustively. Moreover, most of the import is directly done by the end users like packaging companies and cement manufacturing companies who have packaging facilities. Only a few traders are directly importing the ink and selling it to the local market. Some industry insiders have mentioned that that there would be around 8 to 10 importers who are importing Flexo ink for trading purposes only. From packaging and cement companies, the three largest traders could be identified and they were interviewed. The packaging companies & cement companies buy from them in case of shortage in their own stock.

**No. of Importers/ Traders:**

Number of importers	8-10
Interview on the study	3

**Limitations in Identifying Importers/Traders:**

The volume of imported Flexo ink by traders may be significant but due to difficulty in identification of the traders, it could not be specifically determined. According to industry experts, around 55%-60% of Flexo ink is imported from abroad, but a large portion of it is directly imported by users. This study has attempted in different ways to identify the ink traders who import Flexo ink for reselling in local market, but it was unsuccessful in finding out a comprehensive list of such traders:

- ❖ At first importers of Flexo ink were searched through internet, but could not find any organized list or website.
- ❖ One importer named “Access BD” was mentioned by an end user of Flexo ink.
- ❖ We tried to find whether there was any association of ink importers, but no such association exists.



- ❖ Supply Chain Dept of BPBL was consulted whether annual amount of ink import or names of ink importers could be identified through customs records of the government. However, this was not a plausible way of identifying Flexo ink importers. Ink is imported under HS Code: 32.15.1910 and 32.15.1910 Different types of ink are imported under the same HS Code. Imported goods are tracked by LC No/ Bill of Entry No. and access to names & contacts of importers are not obtainable without due authorization.
- ❖ Ink users have mentioned that there may be around 8 to 10 importers of Flexo Ink. But, there may be some small importers who import the ink along with other materials.
- ❖ According to President of Ink manufacturers' Association, Mr. Zakir Hossain, a large number of garments companies import Flexo ink from abroad under bonded warehouse facilities for own consumption purpose but they illegally sell it to the local market. As they can import duty free under bonded warehouse facility, the price of the imported ink is lower than the locally manufactured ink.
- ❖ According to the spokesperson of "Tradex", the information of "Bonded Warehouse" is true. There are some garments which are importing this ink and sell it to the local market internally. He refused to mention any name.
- ❖ The spokesperson of one of the biggest packaging companies of our country named "Bengal Poly and Paper Sack Limited" agreed that they are importing this ink from abroad by taking the "Bonded Warehouse" facility. They get 61% duty free from the govt.
- ❖ From the "Packaging Association" and "Ink Association", we tried to get information about any "Importers Association", but all of them told that there is not any enlisted association like that.

**Import volume and value by Traders:**

Import volume and values by traders from the study:

Name of the company	Import amount in ton/year	Price TK/Kg	Total Value TK/year
Comilla Hardware	210	350	73,500,000
Tradex	120	350	42,000,000
Access BD	120	350	42,000,000
Total	450	350	157,500,000
Others (Considering 40% Contribution)	300	350	105,000,000
Extrapolated Total	750	350	262,500,000

Note: Extrapolation is done considering that the import of these 3 importers (450 ton) contributes 60% of the total import by traders (for resell). Imported Ink” will be 750 tons & TK. 262,500,000.

**Forecasting**

According to the manager of the “Access BD”, this sector has a good growth in the last few years. His expectation is this sector will have 15-20% growth in the next five years.

**Market Trend**

- ❖ The survey found that till now this market is dependent on the imported inks.
- ❖ Local producers are facing a serious hardship because of the aggression of the imported inks.
- ❖ Quality of the imported inks doesn’t have that much difference from the local inks.
- ❖ Price of the imported inks is much lower than the local inks because of the “Bonded Warehouse” facility.
- ❖ Organizations those are importing this ink from past, still in that path. But, new organizations are buying the ink from the local producers. At past, the ratio of import

vs. local ink was 80-20. Now, the ratio is 55% import and 45% local production. So, there is drastic change in the ink consuming companies.

- ❖ Govt. regulation is a must needed thing for the survival of the local producers.

### **Ink Brand and its Share:**

There are several ink brands are getting used in the Flexo ink among them Toyo ink from Singapore is the major one after Micro Ink. Danesh from local is in the third position. Local manufacturers are still behind and slowly but surely they are gaining more market day by day.

Ink Brand	Country	Annual Cons (ton)	Annual Turnover(tk)	Market Share
Toyo Ink	Singapore	346.18	123240080	33.1%
Micro	India	244	86864000	23.4%
Danesh	BD	144.18	49886280	13.4%
Savic	Saudi Arabia	189	67284000	18.1%
Lotty	Korea	3	1068000	0.3%
Nebula	BD	108	37368000	10.0%
Nahar	BD	18	6228000	1.7%
Total		1052.36	371938360	100.0%

### Cement Industry Analysis

One of the major uses of Flexo ink is in the cement industry. Cement Bags manufacturing plants use a good amount of Flexo ink every month.

In this study, Flexo ink consumption by Cement Company, from local producer and from imported ink have been explored. There are around 33 cement companies in Bangladesh, a. Among them, some of the cement manufacturers have their own bag plant, like Seven Circle Cement, Shah Cement, Premiere Cement, Fresh Cement, Bashundhara Cement, Tiger Cement (Madina Group), Akij Cement. Among these, “Seven Circle Cement”, “Tiger Cement (Madina Group)”, these two company manufactures cement bags for some other cement companies as well. Along with that, some of the normal packaging companies like “Bengal Poly and Paper Sack Limited”, “Khan Brothers” etc. manufacture bags for some of the cement companies.

#### Total Demand

Name of the Company	Self-imported amount in ton/ year	Buy from local producers in ton/ year	Total Consumption	Price Tk/ Kg	Total Value BDT/Annum
Seven Circle Cement	90			280	25,200,000
Fresh Cement		36		425	15,300,000
Bashundhara Cement		30		425	12,750,000
Shah Cement	54			280	15,120,000
Tiger Cement		48		425	20,400,000
Akij Cement	30			280	8,400,000
Premiere Cement		21		425	8,925,000
Crown Cement		30		425	12,750,000
Royal Cement	15			280	4,200,000

Total (80% of Market)	189	165	354	280/425	123,045,000
Others (Extrapolation considering 20% of Market)	47.25	41.25	88.5	280/425	30,761,250
Total Industry Consumption	236.25	206.25	442.5	280/425	153,806,250

## **Packaging Companies**

Different packaging companies manufacture cement bags for some of the cement companies. We have found Khan Brothers, Bengal Poly and Paper Sack Limited manufacture cement bags for some other cement companies. Besides these, we have also got information that some of the very little packaging companies manufacture cement bags for some less demanding cement companies on order basis. According to our research, the yearly demand of these packaging companies for the cement bags is approximately 15-20 Ton/year.

## **Market Trend**

- ❖ In the cement industry, packaging is not their main concern. So, they are not that much conscious about the quality of the ink.
- ❖ According to the local ink users' description, there is not much difference in the quality of the ink.
- ❖ At past, the cement industry totally depended on the imported ink.
- ❖ Newly setup plants are using local inks.
- ❖ The cement companies are using bonded warehouse facility, the price of imported ink by the cement companies is lower than price of the local ink is higher than the imported ink.
- ❖ As the cement industry is growing rapidly in our country, not all of the cement companies are getting the facility of "Bonded Warehouse". So, they are buying the ink from the local producer. The ratio of the imported ink and local ink usage in this industry shows us a sharp shifting of the industry towards the local ink from the imported inks.

### Local Producer of Flexo Ink:

Market survey showed that a small number of local ink producers are producing Flexo ink in Bangladesh. The study collected a list of 15 Ink producers in Bangladesh from the raw material supplier for ink. Among them, only 5 ink manufacturers were producing Flexo ink.

#### Annual Turnover of Flexo Ink

Company Name	Production M ton/ month	Annual Production(M. Ton)	Price/Kg	Annual Turnover
Danish	54	648	425	275,400,000
Nahar/Yasmin	2.5	30	400	12,000,000
Crown	35	420	420	176,400,000
Nebula	60	720	420	302,400,000
Nishan paints	30	360	420	151,200,000
<b>Total</b>	<b>181.5</b>	<b>2,178</b>		<b>917,400,000</b>

Annual turnover of local production of Flexo ink 181.5 metric ton in volume and BDT 91.74 Crore value. Nebula produces 720 MT of Flexo ink annually but about they use 80% of it for their own packaging plant. The rest 20% is supplied to other packaging plants. Danish



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is the second largest Flexo ink producer with annual turnover volume of 648 MT.

### **Special services given by manufacturers:**

Danish private limited gives a very special facility to the packaging industry. No company in Bangladesh does play any role without selling the produced ink to the packaging industries. But Danish Private Limited does following special responsibilities for the packaging companies:

- They directly deliver their ink to the packaging companies' production plant.
- They have expert technicians those do the formulation of thinner for the packaging companies so that thinner works well and it keeps the ink away from dry out.



### Packaging Industry

In the study, 11 packaging companies were covered that are using Flexo ink for production of packaging. Flexo ink is used in printing on Wpp bag, Builder bag, Box Bag, Bale Cover, packaging for Poultry feed, Textile, rice, Bopp Rice, Fish Feed, Fertilizer etc. The packaging companies directly import the major portion of their requirement of Flexo Ink.

From the BGAPMEA, a list of 1300 packaging companies was obtained. These included companies involved in various types of packaging using Gravure, offset, Flexo inks and it was not possible to narrow down which companies were involved in Flexo printing in particular and their scale of operation. From a source, it was found the WPP bag producers will be around 40 to 50 in the country.

However, information from Flexo ink producers and BGAPMEA representatives indicated that the 11 packaging companies under the study contribute around 60% of Flexo printing in the packaging industry.

#### Total Demand

Company Name	Self-Import ton /month	Buy From Local Producer in ton/month	Buy from Importer/ month	Total Consum ption (Ton/M onth)	Yearly Consum ption in Ton	Price/K G(in TK)	Annual Turnover in TK
Sino Bangla Group	4	0	0	4	48	280	13,440,000
Paragon	0	1.5	0	1.5	18	425	7,650,000
Bengal poly	20	1	0	21	252	280/420	72,240,000

Khan Brothers	10	10	0	20	240	280/42 5	84,600,000
Intimate Packaging	0	0	10	10	120	350	42,000,000
Nahid Group	20	0	3	23	276	280/35 0	79,800,000
Desh Bondhu Polymar	0	5	0	5	60	420	25,200,000
City Group	20	0	0	20	240	280	67,200,000
Miracle Industries Ltd	20	0	0	20	240	280.00	67,200,000
Quality Feeds	20	0	0	20	240	280.00	67,200,000
Total of surveyed companies	114	26	13	153	1836		569,880,000
Others (considering 40%)	76	17	9	102	1224	0	379,920,000
Extrapolated Market Size	190	43	22	255	3060	0	949,800,000

Note:

1. Consumption of the 11 packaging printing companies is considered 60% of the market while the rest is considered 40% and labeled as "Others" in the above table.
2. To derive the overall market size of Flexo ink, the direct import volume & value by the packaging printing companies were considered along with other sectors:

Monthly direct import volume M.Ton	Annual direct import volume M.Ton	Monthly Total Value (BDT)
190	2280	638,400,000

Reasons behind small packaging companies choosing local producer rather importer

Small packaging companies purchasing from local producer because when they have to buy from importer it is must to order for a big amount of ink to import and there is also a big problem when there is any complain about product. It took minimum 1.5 month to import the ink after setting order.

Bonded Warehouse facility receiver in Bangladesh:

- Rabbani Limited
- Baker Enterprise Limited
- ACI Limited
- Javed Enterprise Limited



## Gravure Ink

Gravure ink is used vastly in Bangladesh for packaging materials of consumer products that produced by big consumer companies like Unilever, Nestle, ACI, Pran, etc. Gravure ink is used to print on polyester sheets of different types- PP, LDPE, HDPE, LLDPE, BOP. These packages are used for dry food items, washing powders/detergents, non-food items, pharmaceuticals, cosmetics, chemicals.

Reverse lamination printing is used for foil packs, or three-layer/ two layer packs, Gravure printing ink is used. Reverse lamination printing is being done by around 25 companies; among these 9-10 are large scale, while rest are medium and small.

Gravure ink is also used for surface printing on single layer polyester packaging. There are around 45-50 established packaging manufactures who use Gravure surface printing.

Moreover there are 700-800 entrepreneurs who are involved in packaging production using Gravure printing. This is an informal sector which operates illegally, without government regulatory and environmental permits. These businesses do not have full printing set-up, rather they share their resources, and around 7-8 of them would share machinery like one composite unit. Thus, total output of this sector may be considered as that of around 100 small scale printing units.

### Market Size (Volume & Value)

To derive the market size of Gravure ink in Bangladesh, three segments have been considered. These are:

- Local Production for Gravure ink in Bangladesh
- Import by traders for supplying to packaging
- Direct import by packaging industries.

Combined volume and value of these three segments will give the market size of Gravure ink within the scope of our study.



Gravure Ink Market:

Gravure Printing Ink Companies	Surveyed	Ink Consumption of surveyed companies	Total Number	Total annual Ink Consumption in Metric Ton	Price	Total Value
Large Reverse lamination printing units	9	4920	9	4920	330-350/kg, 420/kg	1,751,520,000
Medium Reverse lamination printing units	12	1482	17	2,100	330-350/kg, 420/kg	747,422,000
Surface printing units	27	1037	44	1,690	330/kg, 410/kg	584,714,370
Informal sector			100	1,800	330/kg,410/kg	622,800,000
<b>Total</b>	<b>48</b>	<b>7439</b>	<b>170</b>	<b>10,509</b>		<b>3,706,456,370</b>

Importers/Traders:

There are no exact information about the numbers of importers, traders of Gravure ink as there is no list, association of them. From the packaging companies we have come to know about 7-8 traders among them we have interview only 1 which is the most famous in the printing and packaging ink world. The trader name is Comilla Hardware who have all kinds of ink including Gravure ink.

Number of traders	7-8
Interviewd	1

According to the owner of Comilla Hardware they

1. Comilla Hardware is importing mainly from Singapore, Hong Kong, India. The brand name is Toyo ink and the thinner is Leeted and they also import DIC. PET from Singapore. They import Micro Ink, Koushik from India. Sakata from Hong Kong.
2. As a whole they import 530 metric ton yearly (Gravure and Flexo combined)
3. They are importing Flexo and Gravure. No offset at all.
4. They need to pay total 310 for Flexo and 380 for Gravure per kg ink. Selling price is higher than that.
5. There are 7-8 importers of ink in Bangladesh but none of them are big like Comilla Hardware.
6. What they said that, their sales has gone down to 10% due to the local ink manufactures like Danesh, Nahar, Nebula. Some companies used to take ink from Comilla but now they don't as they getting less price from the local ink manufactures. According to Nazrul Islam their quality is not like the imported ink that they sell.
7. Total consumption of Gravure ink in whole Bangladesh is around 8000 to 10000 ton/year.
8. Gravure Packaging Company is around 100-110.
9. According to the MD Mr Nazrul Islam it's a growing industry but very Competitive. Price is the biggest factor here. Quality doesn't matter for many packaging companies.

According to the proprietor of Comilla Hardware they import ink from various countries of the world for example, Singapore, India, Pakistan, and Japan. Most of the ink they import mostly from Singapore toyo ink. According to the website of Toyo Ink there are 7 types of surface printing Gravure ink and PMG is among one of them which Comilla Hardware import the. Recently their sales figure has gone down due to the local producers as many small companies are buying ink form the local manufactures and the quality is not good as the imported ink and they cost slightly less than the selling price of Comilla Hardware.

**Ink Brand and its Share:**

There are imported ink brand and as well as local ink brands. Most of the packaging companies are using imported Ink. Among the imported ink toyo from Singapore is the most popular among the packaging companies. It is the most consumed brand in Bangladesh after micro ink from India. From local manufacturers the brand which is most popular is Danesh as they have technical support for the consumers. Nahar, Nissan is also doing very well in the market from local brands. Akij Nebula is also a very good quality brand from local and according to the Super Thai plastic Limited's Kamal Hossain, Nebula Ink is as good as toyo ink in terms of quality.

Ink Brand	Country	Annual Cons (ton)	Annual Turnover (tk)	Market Share
Toyo Ink	Singapore	835	297260000	43%
Micro Ink	India	351	124956000	18%
Danesh	BD	194	67124000	10%
Nahar	BD	215	74390000	11%
Dic	Singapore	120	42720000	6%
Sakata	Hong Kong	120	42720000	6%
Nebula	BD	83	28718000	4%
Nissan	BD	18	6228000	1%
Total		1936	684116000	100%

Among them, Danes and Nebula are the best in quality and support. All most all the local purchases are from them.

Some of the companies aren't buying ink from anyone rather they are importing the raw materials, hiring chemist and making their own ink by themselves. They mostly hire chemist from India. Tricepack is one of the company those who import raw materials and produce own ink.

Packaging Industries:

Usage of Gravure ink is observed in following sectors:

- **Reverse Lamination Gravure Printing Units:** reverse lamination printing is used for multi layered packaging items, where Gravure printing is done from the inner or reverse side of the lamination surface which is then attached to the inner layers. Foil printing, LPDE, HDPE, BOP etc. are the surfaces. Around 25 packaging printing agencies are involved in reverse lamination printing. Out of these 10-12 are large scale, the rest are medium and small. Among them the most mentionable are, The Merchants, Arbab Poly Pack Ltd, Famous Printing & Packaging, Premiaflex etc.
- **Surface Gravure Printing Units:** Surface Gravure printing is done on the outer surface of the polyethylene or poly propylene film, usually these packages are not multilayered. Among the packaging companies are involved in Gravure surface printing, around 50 are formal organized set-up. Among them most mentionable are, Super Thai Plastic Limited, Navana Printing & Packaging Ltd, and Ekota Enterprise etc.
- **Informal Sector:** There are a number of proprietors who are involved in printing packaging materials for local FMCG items. However this is an informal sector, these businesses do not have business license, environmental and industrial permits from the government. Thus these businesses are operating illegally. Moreover these businesses do not have compact set-ups, rather they collectively share their resources to keep investments at a low level. For example, one entrepreneur has sealing machine, one has cutting machine, one has printing machine etc., and they are sharing these resources when any of them are getting orders. There are around 700 to 800 such informal units



operating in old Dhaka (Lalbagh, Urdu Road, Islambagh), however it would take resource sharing of 7 to 8 units together to work as a complete set-up. Their machineries are located in private households, hidden from the government regulatory bodies. Unauthorized production of plastic items is strictly prohibited under law and such businesses have to meet a number of industrial, environmental and safety clearances in order to operate legally.

## Thinner Market

Thinner market is an integral part of the “Flexo and Gravure Ink” industry. There is a combination in the mixing of the ink and thinner. So far from our study we have found that the use of thinner is more than the ink itself. For solid ink the ration varies from 1:4(ink: thinner) to 1:2. For type ink its 1:.5 to 1: 1.5. The most popular thinner brand among the packaging companies are Leeted and Riverbank from Singapore. Local manufactures are way behind the imported thinner as there are no local thinner manufactures so far which has a significant market share. Berger Paints Bangladesh can take this opportunity to expand their business.

### **Market size of Flexo Thinner:**

	Total Import and Locally Produced amount Every Year (in Ton)	Per Bag Ink Demand in gm	Per Bag Thinner Demand in gm	Total Thinner Demand in ton Yearly	Thinner Price/Kg	Thinner Price
Local Production	2178	1.05	1.5	3,111.4	220	684,514,286
Import by traders	750	1.05	1.5	1,071.4	180	192,857,143
Import by Cement Industry	236	1.05	1.5	7.1	160	53,942,857
Import by Packaging Industry	2280	1.05	1.5	3,257.1	160	521,142,857
Total	5444	4.2	6	7,777.14	720	1,452,457,143

The market size of Thinner for Flexo printing is 7777.14 ton / year. The total value of the market is around 145.24Cr.

**Flexo Ink thinner consumption:**

Thinner Brand	Country	Annual Cons(ton)	Annual Turnover	Market Share
Leeted	Singapore	702.52	102184727.3	42%
River Bank	Singapore	780	113454545.5	47%
Shahana Trade Int.	BD	171.8	24989090.91	10%
Total		1654.32	240628363.6	100%

**Market size of Gravure thinner:**

Thinner	Volume(ton)	Value(tk)
Total	10762.24	1565416727
Local	299.7	43592727.27
Import	10462.54	1521824000

Considering the per drum price 24,000 taka. 1 drum 165kg.



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### Gravure Ink thinner Consumption:

Thinner Brand	Country	Annual Cons (ton)	Annual Turnover(tk)	Market Share
Leeted	Singapore	1667.45	242538181.8	87%
Shahana Trade Int.	BD	93.3	13570909.09	5%
River Bank	Singapore	153.45	22320000	8%
Total		1914.2	278429090.9	100%

## Conclusion

From our study what we have found so far that the Flexo & Gravure market is huge and it will continue to grow in the future as well. There are some small packaging companies who doesn't care about the quality of the ink but most of the other packaging manufacturers want good quality ink which is not available in local. So BPBL can take the opportunity to manufacture ink and fulfill the needs of the local as well as creating a new market from themselves also.



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## **List of Acronyms**

BPBL: Berger Paints Bangladesh Limited

PP: Polypropylene

LDPE: Low-density polyethylene

HDPE: High-density polyethylene

WPP: Woven Polypropylene

## **Reference:**

1. BPGMEA members list Retrieved from <http://bpgmea.org.bd/v2/>
2. IDLC research report