

Embee proposes step by step upgrade to reduce cost at the Rotary Printing (Screen Making) department

Ashwin Shah, Director, Embee India, shares the step by step upgradation of the end-rings in the rotary screen printing industry. He says, "In view of my experience in textile mills in different cities of Pakistan

and subsequent evaluation, I can recommend two different upgrades for the rotary screen printing department to reduce energy and maintainment costs."

Upgrades in Endring Gluing and Endring removing machine

In order to upgrade your Endring Gluing / Fixing (EGM), the customer can fix endrings faster, save energy with no screen denting or tearing, and gain better reproducibility of screens.

With Embee technology, the customer can fix endrings in roughly 2 or 3 minutes. The high intensity bulbs or lamps are used instead of 12 KW electrical heaters to fix the endrings. In this context, the process is exactly the same, which involves applying of same endring adhesive on endrings manually, after which screen is placed and fixed onto endrings on machine resulting in perfect alignment.



(EGM) Endring Gluing Machine.



(EGM) Endring Gluing Machine.



(ERM) Endring Removing Machine.

The additional advantages include minimal denting and tearing of the screen on rotary printing machine.

It is also important to highlight that adhesion is much better as compared to result achieved by use of electrical heaters / curing ovens.

The usual life of bulbs as you know is upto 6 months depending on usage and machines alignment. But thats not all - in case of an upgrade EGM reduces load of curing oven, which is a costly affair running at 12 Kwh/units (energy consumption of PKR 216 per hour).

The Embee retrofit reduces load on oven by almost 33.33% since without such an upgrade an oven (which is a hidden costs) is used for curing of emulsion; endring fixing and endring removing generates additional costs.

Mr. Hardik Shah concludes, "Some of the comparable machines from Europe have low life of bulbs, due to a basic flaw in design and engineering."

Hence, Mr. Shah advises, "Choose your machine manufacturer wisely and if possible endring gluing / fixing can be upgraded at the same time."

Upgrade your Endring Removing (ERM)

Mr. Shah says, "Endring removing process has been ignored in Pakistan, which is infact the need of the hour since it plays a key factor in improving reusability of the screens on the large scale."

The conventional removal of endrings from screens is explained as follows:

1. Heating in oven for 10 - 12 mins.
2. Manually Scrapping glue with knife.
3. Soft Hammering and manual removal.

The conventional removal of end rings as per above method, results in torn edges and dents near the endrings. This results in poor quality of screen printing and lesser resuability of those screens.

Mr. Shah says, "When I visit customers, they often wonder what the machine does to reduce cost of screen printing. The machine engineered by Embee is a novel idea to remove endrings from screens, keeping in mind that care-

Parameters	EGM (bulbs)	Heaters system / manual
Fixing time	2-3 mins	25-30 mins
Production time	5 mins	40 mins
Electricity/screen 50 screens/day	0.33 units (PKR 5.94) PKR 297	1.8 units (PKR 32.4) PKR 1620
Screen denting and Reusability	No denting (Screen Safe) Increased screen reusability	Denting subject to labour. May even tear screen on rotary printing machine if misaligned.
Cost Saving: 50 screens/day (electricity @ PKR 18)	PKR 1323 per day	--

Parameters	ERM	Manual
Removal Time / screen	< 1 min	5 mins
Removed Screen	No torn edges No denting of screen near endrings	Edges are torn /damaged Denting occurs while removal of endring manually
Heating	Inbuilt heater (runs < 1 min)	Oven heating for 10 mins
Screen reusability	Enhanced by 1 to 2 times	Deteriorating
Operational skills	Ease of operation	Varies from operator.

less or untrained operator can be substituted by consistent and reliable technology."

Mr. Shah say, "I would like to summarize once again, that ERM also reduces load of curing oven which is a costly affair running at 12 Kwh/units (Energy of PKR 216 per hour, showing the savings of 33%). The Embee endring fixing and removing machine reduces load on oven by almost 66%, which is required for curing of emulsion. Furthermore, the oven door is opened and closed fewer times, which ensures lower heat loss, and use of high power heaters. The step by step upgrade with Embee technology reduces cost and is the need of the hour for the processing mills of Pakistan. ♦