



**Foreword**

**Dear Reader,**

This Indian edition of our info-forum has reciprocated the market demand. Despite the poor worldwide economic constraints in the past, we haven't lost our optimism and continued in our product development and research activities.



This issue of info-Forum covers:

- First Seminar and Training in New Delhi, India on Rollforming.
  - COPRA® FEA RF-data M's finite element analysis software for the roll forming process has been introduced successfully to Indian industry. It makes understand the rollforming process and helps to develop new and more complex products. This is important in view of new high strength material and the growing demands from industry.
  - data M is also offering consulting and design services. A trial order will convince you.
  - data M customer's success stories on their benefits from our products and services.
  - last but not least: data M has decided to start its operations in India to strengthen the product sales, support and services in the Arabian and Asia-pacific market.
- I am sure that our developments are able to give you some suggestions for your business since economy is moving upward. I kindly ask you to see for yourself and talk to our data M team and representatives.

Yours sincerely  
Albert Sedlmaier, President

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The All Indian & Arabian Exhibition for the Tube and Pipe Industries at Hyderabad

**TUBE INDIA 2005**  
**Feb. 17<sup>th</sup>: Conference**  
**Feb. 18<sup>th</sup> - 20<sup>th</sup>: Exhibition**  
 Visit us at our booth:  
**Hall A-2, Booth D06**

## Conference & exhibition: Come and meet us at Hyderabad!

At Tube India 2005 in Hyderabad, the data M Software + Engineering will be presenting new versions of the roll tool design - and engineering software COPRA® RF and COPRA® FEA RF.

**COPRA® Roll Form Design- and Engineering Software; Simulation of Tube Making Process**

The new version of COPRA® Roll Form software will be shown at Tube India 2005. Some of the new features are a so-called "roll-browser" and project manager allowing for a comfortable roll tool management during the design. The strain analysis software "COPRA® DTM" (COPRA® Deformation Technology Module) will be shown in a new version which is able to calculate now even longitudinal plastic strain values in the material caused by the forming process. This gives the user essential hints about possible over-working of the coil material in order to achieve a proper

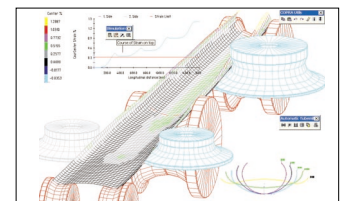
welding and tube quality (picture1).

data M Software's high-end Finite Element Analysis Software "COPRA® FEA RF" which was introduced first to the tube industry at Tube Düsseldorf 2000 and has been extended since then continuously. The non-linear elasto plastic calculation (based on MSC. MARC), the automatically generated model, a process-wizard driven easy definition of process parameters and reduced calculation time are making this solution to a virtual try-out and analysis tool. At Tube India 2005 data M will be showing COPRA® FEA RF with an integrated simulation of the welding process as well – in addition to the analysis of the forming process before and after the welding unit.

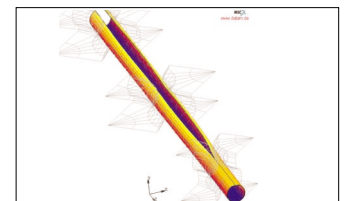
COPRA® FEA RF actually allows for both – the verification of roll tool design as well as the analysis of tube making and roll forming processes (picture 2).

**See you in Hyderabad...**

Yours sincerely:  
Albert Sedlmaier & Santosh Venkata Subbaiah



Picture 1: COPRA® DTM (Deformation Technology Module) now calculates longitudinal plastic strain values resulting from the roll forming process in tube mills.



Picture 2: COPRA® FEA RF now also allows the analysis of the welding process

**data M goes to India**



Santosh Venkata Subbaiah, an experienced engineer will be managing data M's Indian business

## data M grows with its customers - data M India

For more than 10 years data M has been working in the Indian market as a supplier of software and engineered solutions for the roll forming industry. It started in 1994 - at Tube India '94 conference,

organised by the ITA (International Tube Association) in Delhi, where data M Software demonstrated its COPRA® Roll Form software for the first time in India. Since then data M has been experiencing a growth of its business.

From 2005 data M Software will be starting its operations in India to strengthen its product sales

as well as support and engineering services. Santosh Venkata Subbaiah, an experienced engineer will be managing data M's Indian business.

Santosh has been with ABCON Information Systems, Bangalore (data M's Indian long-term representative) and been promoting data M's software products for several

years. He has got detailed experience in the application of data M's software products in the roll forming and tube making industry.

data M India is also going to take care of both - the Arabian as well as the Asia-Pacific market and strengthen the support to customers and sales partners.

Roll Design Services for Bherwa Metals

# Roll Design service benefits

## Bherwa Metals Supplies roll formed sections

with compliments from  
Bherwa Metals Pvt. Ltd. ■

With the strong experience of roll forming since its establishment, Bherwa Metals Private Limited, Bangalore a sister concern of M. I Metal Sections Pvt. Ltd. is a leader in the supply of steel Cold Rollformed Sections like door frames, window frames etc. in the South Indian market. Founded in 1982 by Ghanshyam Sankhla and Sujaram, the company has succeeded in introducing new steel Cold Rollformed Sections to reduce the usage of wood in the Indian civil construction practices. The company has won the prestigious **Gold Medal** for the top quality of its Cold rollformed metal profiles/shapes and **'Udyog Rattan'** award. The company now backed up by Dhiren Saini is taking major steps to produce low cost quality products to reach the needs of every consumer.

As one of the major step, the company decided to have Roll Design consulting service from data M Software, Germany through its Indian

COPRA® RF-Center of Competence ABCON Information Systems Pvt. Ltd. to explore the technology update necessary to develop new products. The objective was also to evaluate the possibility to reduce the trial run, redesign and reprofiling of the roll tools that directly cost time, effort and money.

Dhiren Saini gladly says **"Getting a Final Product in 8 hours including the machine set-up during the trial run was an unbelievable experience for both me and my Managing Director. It was good to see that the tooling did not require any kind of modification, which is very common in the old design methods (i.e. trial and error method) we had adopted until our previous product development. Initially, even though we felt that we paid more for the Roll Design service, the monetary benefit we had was much more in terms of the time and the material we have saved. The output**

**was so good that we did not waste even the first single length as a reject or scrap except for the initial one feet where the strip was trimmed to feed in through the rolls."**

After a successful project, Bherwa Metals has taken few quick steps to ensure they get started with the state-of-the-art Roll tool design COPRA® RollForm software. Dhiren Saini himself attended the 3 days seminar on Roll Forming that was held in New Delhi on 23<sup>rd</sup> - 25<sup>th</sup> November 2004 to understand the principles adopted in the software to design the roll tool correct first time with every new project. With the evaluation license provided by dataM software as a part of seminar participation, the company has successfully designed one new section to their satisfaction.

With the slogan **'You think it, we make it'**, the company has now geared up to be an OEM supplier of

Cold Rollformed Sections for various top companies in the vast manufacturing segment like Automotive, Consumer electronics, Textiles etc.



The final profile.



From left: Ghanshyam Sankhla & Dhiren Saini.

Tube Mill Roll Design at Rollform Equipments

# Tube Mill Roll design benefits

## Rollform Equipment Pvt. Ltd. uses COPRA® RF software

with compliments from  
Rollform Equipment Pvt. Ltd. ■

Being hardcore professionals in the field of Electronics Engineering K. K. Goel and S. K. Jain started Unitherm Inducto weld India Pvt. Ltd in the year 1992. The company specialises in the manufacture of High frequency Induction Heating and Welding equipments for Tube Mills, DC control drives and other automation systems. The company has exported these products to over 25 countries and is considered to be one of the best in the country.

As a part of expansion, Unitherm Inducto weld started its new group company ROLLFORM EQUIPMENT PVT. LTD in the year 1999 adding U.K.Garg to their strength. With the strong hands on experience of U.K.Garg as a professional in Mechanical Engg. field with over 12 years in ERW Tube production and 8 years in Manufacturing of equipments of Tube plants, the company manufactu-

res Tube Mills, Open Section Mills, Slitting lines and Tube finishing equipments like-End Facing, Hydrotester, Straightening, End threading and Tube cutting lines etc. The Concept of Cold cutting – on line as well as off line, has been specialised by the company, The Company has technical collaboration with M/S Manfred Olk technical consultants, Germany for high-end Automation product lines. The list of important clients includes – TPI, Jindal, Surya, Zenith and Nezone - Groups and Arihant, Pune - in India and has exports to South Africa, Egypt, Dubai, Oman, Nepal and Bangladesh.

The company has been using the COPRA® Rollform Software since 2002 for roll designing for open section as well as ERW Tubular Sections – Round, square and rectangular. As an experienced machine and tool design-

er, U. K. Garg says **"The company has gained good technical advantage after using the Software. Apart from saving time, by way of Deformation Analysis using DTM (Deformation Technology Module), we could ensure proper performance of the design, on the floor. And also, once the required mill parameters are fed, the software automatically generates the roll drawings. We recently had designed 15 roll sets in 10 days with detailed drawings. Since RollForm is in to Mill designing and manufacturing, the software has provided proper help in deciding no of passes once the sections to be rolled are known. These are few discrete advantages that I have experienced."**

After the participation at Rollforming Seminar held in Delhi, India (23<sup>rd</sup>-25<sup>th</sup> November, 2004) and by

deep interaction on the advantages of COPRA® FEA RF module, U. K. Garg has understood its unique benefits and expresses that **"The newly launched software module of FEA is having additional advantages of total physical demonstration of the forming process on the computer screen and also the loads can be computed to the precise limits. These features drastically reduce the possibility of failure of a roll design. Load calculations also help the equipment designers to optimise their machine without adding unnecessary weight in it"**.



U. K Garg working with COPRA® DTM

Rollforming at TI Metal Forming

# Open sections Roll design benefits

## Complex section design with COPRA®

with compliments from  
TI Metal Forming ■

Pioneer in cold forming, TI Metal Forming, a unit of Tube Investments of India Ltd. is in the business of manufacturing and supplying value-added, metal formed auto components to OEMs and became the first supplier of door frames in India.

The first green field door frame manufacturing facility was set up in 1998 at Bawal, near Gurgaon, in technical collaboration with M/s Edward Rose of UK, for supply of 800cc door frames to Maruti Udyog Limited. The second facility for manufacturing doorframes was also set up in 1998 at Thiruninravur near Chennai, in technical collaboration with M/s Dongwon of Korea, to supply doorframes for Santro and Accent models of cars to Hyundai. Centered around its core competence of metal forming involving roll forming, stretch bending, press working, welding, grinding, buffing etc., and synergising with sister business units such as Tube Products of India, who are leading manufacturer and supplier of steel

tubes and strips, TI Metal Forming is poised for growth in other value added metal forming auto components such as exhaust system parts, body and structural parts / assemblies etc.

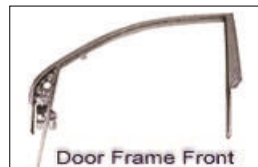
Under the prudent decision of A. Suryanarayan - Vice President, the Engineering department decided to purchase COPRA® Rollform Software in the year 2001 to improve the design, and reduce the development time. With the increase in demand of roll formed products, T. Saravanan - Manager (Design & development) and Ashutosh Sharma - Head (Engineering) could harvest the benefits with significant improvements on the roll tool design time and the trial run.

Ashutosh Sharma - Head (Engineering) gladly expresses **“COPRA® Rollform software has been helpful in reducing the design time which in turn has reduced new product development time.”**

Padmanaban. V - Supervisor (Engineering & Development) acknow-

ledges, **“The design time of 3-4 weeks for a complex section has now come down to less than a week. The Deformation technology module throws light on the designed forming process, which in turn helps to do the necessary corrections at the design stage itself. Compared to the conventional design methods, the COPRA® Rollform software really takes off pressure on the designer”**

T. Saravanan - Manager (Design and Development) says **“With the knowledge of restrictions like number of stands available on the mill, special arrangement that could be adopted,... quick decision on the better forming process can be worked with the software.”**



Door Frame Front

COPRA® Software at D.B. Engineering

# Roll Manufacturing benefits

## New Generation of Tube Mill Rolls / D.B. Engineering supplies tooling

with compliments from  
D.B. Engineering Pvt. Ltd. ■

D.B. Engineering Pvt. Limited is one of India's largest manufacturers and exporters of Industrial Knives, Blades, Tube Mill and open section Forming Mill Rolls. The tube mill rolls have been supplied to almost all the leading large-scale as well as small-scale tube and pipe manufacturers in the India and the Indian subcontinent. To achieve technical excellence in the design of rolls, the management decided to purchase COPRA® Rollform software. With the implementation of the COPRA® RF in April, 2003, the company has acknowledged the benefits with the increase number of rolls production by cutting down on the number of reworked rolls.

The General Manager – Sales, V. P. Mathur explains **“The advantage of software based roll design is that the simulation achieved takes all operational problems into consideration and distribu-**

**tes the load equally on all the rolling station for efficient and productive tube and pipe manufacturing. The design data are transferred to state of the art CNC turning centers through software interface, which eliminates chances of error and gives high-class rolls.”**

The Director - Manufacturing Atul Beri gladly add **“With the supply of rolls with best design and high accuracy in the domestic and international market, we are now producing rolls with full capacity available. The top class performance of our rolls has kept pressure on us to add more resources from time to time to meet the increasing market demand.”**

The Manager – Manufacturing Parthapratim Karmakar shares his experience **“The advantage of COPRA® based roll design is elimination of human error and**

**assumption of bending angles, taking into account properties and stress strain load diagram of material to be formed. Also helps to establish the required stand distances of mill for particular material forming which is the key information to the mill manufacturers. From manufacturing point of view, it helps to achieve dimensionally accrued rolls with much improved surface finish (0.4 Ra) on the profile resulting the better tube quality high production with minimum rejection and better yield of raw material.”**



The final rolls

Opinions

## Black Art?

“COPRA® Roll Forming Software has initiated deep interest amongst all of us and has enabled us to learn more about the strategies involved in roll forming.

Through the COPRA® Roll Forming Software, we have learnt that roll designing which was considered as ‘Black Art’ till now is now made simple through the scientific approach. We would love to know future developments in the COPRA® Roll Forming Software.”

Dr. P. Shanmugam  
Manager Corporate R&D –  
Tube Products of India ■

Seminar

## COPRA® seminar and -training in Delhi / India



Due to positive feedback and great demand in Europe and in the USA, data M organised a seminar in collaboration with “ABCON Information Systems, India” on November 23<sup>rd</sup>, 24<sup>th</sup> and 25<sup>th</sup>.

The 30 participants could learn much about Design, Optimisation, Verification and Finite Element Analysis for Roll Forming.

The first day gave an overview about the possibilities and features of rollform simulation techniques to everybody being interested.

The second day covered software training for open profiles. The third day covered software training for round tubes. The COPRA® RF training has also been carried out by our Indian reseller “Santosh V” of ABCON, our COPRA® RF - Center of Competence in India. ■

Congratulations on 50 years Tata Tubes

# Tata Tubes: 50 successful years

## International conference at Jamshedpur

with compliments from  
Tata Steel Tubes Division ■

The history of Tata Steel (the tubes SBU) is synonymous with the growth of the tube industry in India. The need for indigenous tube making was realised as far back in 1935's, when the country's tube requirements were met by imports at a high cost to the nation. In order to make India self-reliant in this field, In 1937 Tata steel negotiated with Stewarts & Lloyds of UK to set up a plant at Jamshedpur in India to manufacture and sell tubes, made from steel supplied by the Tata Iron & Steel Company. However, World War II intervened and the agreement with Stewarts

and Lloyds could only be implemented in 1954, 50 years ago.

An International Conference on 'Developments in Steel Tube Technology - An Imperative for the Auto and Engineering Industry' was held on the 16<sup>th</sup> & 17<sup>th</sup> of December 2004, at Jamshedpur, India jointly organized by Tata Steel Tubes Division and Indian Institute of Metals, Jamshedpur Chapter to commemorate completion of 50 golden years of the organisation. The conference gave a platform to exchange knowledge on the latest technologies in the steel tube-manufacturing arena. The professionals,

scholars, researchers, and executives from esteemed organizations from India and abroad actively participated as speakers or delegates and used the forum to interact and share their experience with each other.



Albert Sedlmaier talking about  
FE Analysis in tube making

Exhibitions and seminars

### next shows...

**Tube + Wire India**  
**International 2005 Exhibition**  
The All Indian & Arabian Exhibition for the Tube and Pipe Industries  
18<sup>th</sup> - 20<sup>th</sup> February Hyderabad, India

**MTA Vietnam 2005**  
International machine tools exhibition  
9<sup>th</sup> - 12<sup>th</sup> March Ho-chi-Minh-City, Vietnam

**TUBE + Wire Russia 2005**  
21<sup>st</sup> - 24<sup>th</sup> June Moscow, Russia

**Tube + Wire Singapore 2005**  
The all asia exhibition for the tube and pipe industries  
20<sup>th</sup> - 22<sup>nd</sup> September Singapore, India

More information about data M's activities can be found on the internet at:  
<http://www.datam.de/en/shows-press>

We are not only offering software...

# Roll Design Services - Roll Tooling Analysis Troubleshooting - Roll Tool Manufacturing and Set-Up

*No experience in roll design? No in-house capacity for roll tool engineering? Want to minimize machine down time during set up? You want to get a bit more independent from your machine vendor? You want to profit from our expertise?*

■ We design roll sets on request - optimised and verified by our design- and simulation software packages COPRA® DTM/ COPRA® FEA RF.

■ We are analysing your existing roll tool sets in order to improve your production process. Starting from your existing drawings or (even better) from your actual tooling by scanning the real roll tooling by means of our COPRA® Roll Scanner, an optical roll inspection device developed and being distributed also by data M.

■ We are happy to assist you in troubleshooting in existing forming problems.

■ And last but not least: we are offering you the complete service - up to reworking your existing or supplying you with new sets of roll tooling.

As the leading engineering- and software company for roll form tooling our engineers have got the best tools for their business - COPRA® RF software.

#### COPRA® Roll Design Service

We design rolls for all kinds of tubes and open sections:

- Design and conception of the flower
- Longitudinal strain check
- Check of material thickness during the roll forming process (for subsequent processes like hydro forming)

#### Roll Design

- Generation of drawings (dimensioned single rolls & assembly plans)
- Parts list, spacer lists, CNC programming, COPRA® archive files etc.

#### COPRA® Roll Analysis Service

We do not fight the symptoms but we are analysing the forming process in order to find out and their causes:

- Analysis of existing forming and shaping passes
- Analysis Report with suggestions how to solve a problem
- Get the actual geometry of existing rolls by using our COPRA® RollScanner
- Compare the designed roll with the scanned roll (generating a so-called "fingerprint" diagram)

#### What you get is:

- A re-design of your flower pattern (if we have to derive the forming process from an existing tool set)
- An optimization of the flower with COPRA® DTM (Deformation Technology Module) Analysis. Of course, your data are treated confidentially. You will receive rolls optimally designed for perfect production of your sections and tubes. You will also get the full history of your designs for your files and later reference.

#### Imprint

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