

# IMPROFIL



**Krah Community**  
News from the  
Homepage



**DIN SPEC 19674**  
Implementation for  
Krah PE-GF pipes



**New machine**  
for the fabrication of  
thermoplastic tanks

See also: [Ridgistorm: Krah AG solved customer problems with new band saw for plastic pipe producers](#)  
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## Welcome to the first issue of ImProfil

**Dear Members of the Krah Community and friends and interested people,**



As announced during our last community meeting in Cologne, now we are presenting to you the first newsletter of our community. Recipients of this newsletter are mainly active (registered) members of the Krah community and passive (not registered) owners of a Krah Production line and it will be released at regular interval. Contents

of this newsletter are important news around the Krah World.

If you are not interested in receiving informations about this topics, you are able to unsubscribe the service at the bottom of this mail.

The last K-show demonstrated again that the world of plastic is full of innovations, challenges and new players around the world. We got a lot of exiting impressions and impulses for our new Krah strategy and for our new developments:

The new Krah Band saw will be an integral part of the krah product range in the future Many companies are very interested in the new thirteen meter long mandrels and ask for an upgrade of their machines The new developed production machine ‚Solid1‘ is the answer to many inquiries of the market for industrial tanks and apparatus.

Even the most important innovation has already started with the development of ‚Phoenix‘ - the new generation of helical extrusion for 2012

We are looking in the future and we try to provide our actual customers and prospects an optimum on improvements and information in the future, to keep their and our business successful.

With kind regards



Alexander Krah / CEO of Krah AG ■

## News at the homepage of Krah Community

**Dear friends and colleagues, the first Newsletter is created and one of the regular topics of each newsletter will be the report about the News at the Krah Community Homepage.**

During the last Krah Community Meeting we decided to fill the page with much more helpful information for the day-to-day business. We have concentrated our activities firstly to technical information and we add for example:

- data sheets of many raw materials, what is used in the world
- Customer-Questionnaire for new pipe and manhole projects
- Sample drawings of fittings, manholes and silos
- Manuals for Krah machines
- Excel Calculation sheets with equations for
  - pipes loaded with inner pressure
  - punshing of drainage pipes
  - manhole acc ASTM F1759
  - vertically tanks
- Tender spec for Krah pipes and manholes
- More standards (especially have a look to the English translation of the new DIN 16961)
- Pictures of pipe applications and manholes Remarkable compares with our competition (for example: GRP, Concrete, SRP ...)

Our next project is to integrate an public area for frequently asked questions and for this we could need your assistance – send us the most interesting questions of yourself and your customers.

Furthermore, if you have interesting informations you imagine a partner in another part of the world could use it, send us the information. No matter if images, reports, datasheets, excel files, marketing informations etc. – all can assist our common goal. ■

[www.krahcom.net](http://www.krahcom.net)



## Implementation of DIN SPEC 19674 for Krah PE-GF pipes

**The German Standard DIN SPEC 19674 has successfully passed the board of DIN committee and is already published in German language - the according English translation will be available short termed.**

Header of the document:

**Plastics piping systems made from glass fibre reinforced polyethylene (PE-GF) for water supply and for drainage and sewerage under pressure**

Project description and Technical Solution The pipeline what Basis for this document was the international Standard ISO/CD 29561. Krah AG values this as an additional and very important step on the way of implementation of KPPS pipes to the international pipe market.

The general safety design coefficient  $C$  is 1.6, but also other values can be used when there is an agreement between manufacturer and end-user. The minimum value for  $C$  is 1.25 Diameter of Pipes from DN/ID 300 up to DN/ID 4000 mm are included Attachment regarding the perfect ringstiffness and modulus of elasticity, for using KPPS even as drainage / sewer pipe



How can we manage the International Standard of PE-GF pipes? Our strategy is that our customers / partners established similar national standards and specifications in their own countries. The more national standards we have implemented in the world, the more influence we will have also on international level.

The official documents can be ordered under:

[www.beuth.de](http://www.beuth.de) ■

## Pipe production tool with 13m length available

**The company Krah – market leader for helical extrusion technology – has developed a 13 meter long mandrel for production of helical extruded pipes.**



*Krah has developed a special procedure for extending the old 7 m long mandrels to 13 meters.*

With this innovation customer can manufacture in one cycle pipe length of 12 meter now. At first Krah offer this innovation for PE and PP pipes from DN 600 up to DN 3000, but bigger dimensions are also possible. In the past the standard length of such mandrels was 7 m, so that production was limited to 6m pipe length. Now the tooling time can be reduced by 50% and the production method becomes even in pipe weight more efficient than before.

As known from the 7 m tools it is still possible to integrate socket and spigot directly at the end of the pipes.

Even for the contractor this pipe lengths provide a lot of cost savings, 50% of joints can be saved and specially for long distance projects it is very interesting.

For every customer who bought in the past a production line for 6 m pipe length production Krah offers an complete upgrade for existing machines and mandrels. Krah has developed a special procedure for extending the old 7 m long mandrels to 13 meters. Even railway and electrical devices can be changed. ■

## Krah AG solved customer problems with new band saw for plastic pipe producers

**The new band saw KBS 4600 is the worldwide biggest band saw which is available for cutting of plastic pipes with an outside diameter up to 4.6 meter.**

During the last years, Krah AG has focused on the development of production lines for large diameter pipes, which could be realized 2009 with the first 4 meter diameter plastic pipe made from HD-PE and Polyethylene glass fiber reinforced material (PE-GF).



Joining the 1050 mm diameter pipes by electro-fusion

Due to this new development, a new request was given in view to the machining of these large diameter pipes if they are used for fitting or manhole production. During the K-Show 2010 in Düsseldorf the new band saw was presented and has caused big interest among the visitors.

The design of the new saw has fully changed compared to all band saws available on the market. This kind of intelligent control system with synchronic controlled drives is providing a crucial reduction in place requirement of up to 40 % regarding the cutting of large diameter pipes. The machine is based on a frame work in distortion-free steelwork. By moving the head frame,

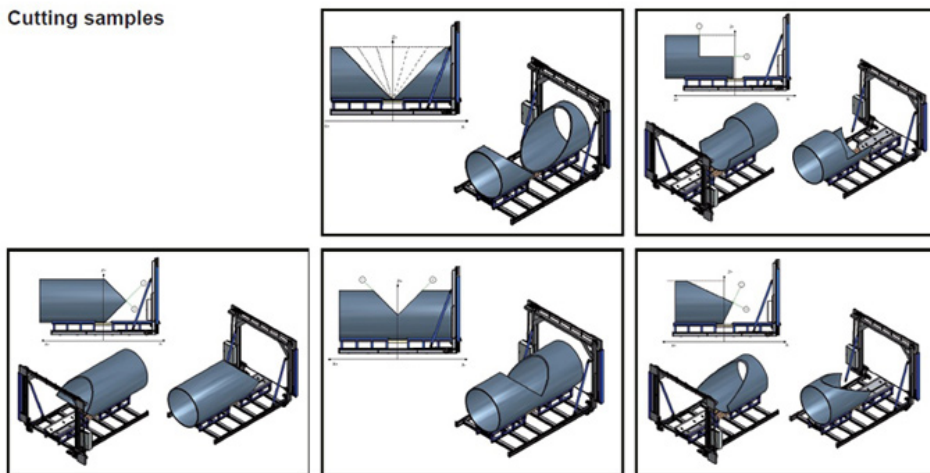
running on a rail bearing system, all cuts are possible from - 67,5° up to 0° and up to + 67,5°. This is only possible by a controlled turning of the saw band during the cut.

The saw band is endless designed and it is electronically conducted with help of a special guiding system which is running with constant distance along the outside diameter of the pipe during the cut. This guarantees a high performance cut with a very low tolerance and gives the possibility to cut a pipe in horizontal direction, too. The tension of the band saw will be controlled with the hydraulic tensioning unit. An optimized cutting speed for plastic pipes with solid wall or profiled wall construction was established with the experience in plastics of Krah AG during the years.

The focus is on the cutting device which has an automatically lowerable head frame for changing the band saw. With help of this option a changing of the band saw can be successfully completed within only 5 minutes. Especially regarding the operational safety we have made a general step forward with this technology for large diameter pipes. The cutting time of the new KBS- system delivers a high speed cutting unit combined with precision cuts by reducing the cutting time and increasing the productivity for the fabrication of manholes and fittings for large diameter pipe application.

The intelligent control system with the integrated touch screen provides a very easy and fast handling. By positioning the pipe in horizontal direction and mechanical fixing, all cuts can be made in one clamping procedure. ■

### Cutting samples



## New machine for fabrication of thermoplastic tanks

The engineering company Krah AG, worldwide known for production lines for large diameter pipes and leading in the technology of helical extruded pipes has developed a new production line for cylindrical tanks. The new line "Solid 1" is specially designed for the market of thermoplastic tanks, apparatus and ventilation systems. This new development was mainly attributable to the high technical and commercial requirements of the market as potential customers are always looking for high quality products, maximum production flexibility and of course efficiency relating to the output.



Industrial polyethylene tank DN 3000  
Industriebehälter DN 2500

Up to now, most plastic fabricator are predominantly using prefabricated and semi-finished products (sheets) for the production of thermoplastic tanks out of PE or PP. The sheets are formed to a cylindrical figure. The joints are welded by extrusion or butt fusion welding. A more homogenous method is to use a helical wound or extruded spiral pipe. But to obtain a helical wound pipe from a supplier, means to invest extra costs into transport and also to lose flexibility in the production process.

Therefore the best solution is to have their own slim helical extrusion process machine which makes the manufacturer of plastic tanks and apparatus much more independently and free regarding innovative and customized solutions - like inter alia multilayer pipes, double wall tanks, special wall constructions or regarding to the diameters and colours of the pipes.

This situation was the main reason for Krah to develop a new generation of machines which are designed in order to increase the efficiency even at lower quantities. The investment in a helical extrusion process machine for the production of cylinders depends on the overall market situation and company experience

and is worthwhile starting from quantities of 100 tons per year. This comprises a volume of approximately 200 storage tanks in common dimensions.



Polypropylen tank production DN 2700 with stepped wall thickness

The output performance of the machine is 500 kg/h. It is possible to produce 500 tons in one year with a 3-shift system, 24 hour operation and sufficient mandrels. The energy consumption is only 1,2 kW per kg plastic.

Even billets and cylinders with wall thicknesses up to 200 mm can be manufactured. As the required wall thicknesses can be produced very precise, there are enormous material and cost savings. In addition it is possible to fabricate tailor-made wall constructions, which is a huge advantage regarding competitors.

The homogenous integration of supports, stepped wall thickness, edge reinforcements and flanges is providing more flexibility in the production process. The height of one step of a stepped wall thickness is 4-5 mm, but it depends on the minimum thickness of one layer.

The helical extrusion process is providing the opportunity to produce functional layers with special properties. Some examples are mentioned as follows:

- electro conductive inside or outside layer for PE- and PP- tanks – necessary for applications of explosive gases (environment)
- light inner layer for PE or PP, for the inspection of inner surface of tanks and pipes

...

- outside protection layer – for example against UV-radiation
- inside layer out of polymers with a better chemical and crack resistance for the application of hazardous and aggressive liquids



*Mandrel DN 4000 during transport*

Such functional layers can be integrated with the help of the optional available Co-extruder with the main extrusion flow, which reduces the production time considerably.

The cylinders were produced on special steel mandrels which are available in standard diameters from DN 800 up to DN 5000. The tank fabrication of nominal diameters 1500, 2000, 2500, 3000 and 3500 is playing an important role. The standard lengths of the mandrels is 7 meter, so that cylinders up to a length of 6 meter can be produced. Mandrels up to a length of 13 m, for the production of long pipes, silos or chimneys are available since 2010.

Krah offers with the new slim production machine a reasonable entry into the plastic winding technology. In addition, Krah is providing a full start-up service for the adequate implementation of the production machine at the particular market.

Stephan Füllgrabe /  
Plaspittec GmbH ■