

# WELDING AND CUTTING



the Welding Institute

IS INSTITUT SOUDURE

+++ Robotics industry is recovering worldwide +++ Cladding in the field of industrial applications +++ What provides protection from laser radiation and how? +++ Weldability of advanced high strength steel drawn arc stud welding +++

## Try it now!

Technical and Scientific Journal of the DVS - German Welding Society

**Contents:** Technical and scientific magazine covering welding, cutting and soldering technology and related fields. Editorial topics: Research and development, training, applications, welding, cutting, soldering, brazing, bonding etc.; materials (ferrous and non-ferrous metals, plastics; raw materials and ancillaries); design, cost calculations and production in the manufacture of steel structures, vessels, plants, vehicles and machinery; welding machines including robots and control systems; materials testing, health and safety at work.

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+++ Prediction of residual stress +++ Corrosion in stainless-steel components as a result of tempering +++ Computer simulation of laser cutting for the limiting-temperature development of robust processes +++



Photo: DVS/IFW

### High-tech surfaces for sheet steel

In process of development is a coating for microstructure of sheet steel... The coating is applied to the surface of the sheet steel... This process is used to improve the surface quality of the sheet steel...



### Formation of welding induced stresses and deformations in the case of variable clamping conditions in the component welding test

When welding, the stresses and deformations in the component... The formation of stresses and deformations is influenced by the clamping conditions... This study investigates the relationship between clamping conditions and the resulting stresses and deformations...

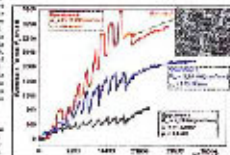


Photo: DVS/IFW



# French innovation in welding

French manufacturer since 1964



An interview with Bruno Bouygues, CEO of GYS, one of Europe's largest manufacturers of arc welding equipment.

Can you tell me about GYS? When did your family acquire it?

My father acquired GYS fourteen years ago, in 1997. The company employed 40 people in an old-fashioned factory. Today, the company employs about 450 people in four countries (France, UK, Germany & China) and we have manufactured over 350 000 machines in 2010. At the time of the acquisition, in 1997, we took a methodical approach to rebuilding the fundamentals of the company. At first, GYS focused on developing a new range of electrode welding machines, then moved on to battery chargers and automotive body shop equipment. Now that GYS is a strong contender in each of these areas, it has turned the full focus of its R&D on becoming a full range Tier 1 supplier of industrial welding equipment.

I understand GYS was started back in the 1960's manufacturing auto transformers. How did the transformation to building welding equipment come about?

GYS started in 1964 but my father acquired it in 1997. From 1964 to 1997, the company was mainly held by the founder family (the Stephany family – the 'S' in GYS) and slowly moved its business model from the manufacturing of auto-transformers to arc welding machines and battery chargers. At the time of the acquisition in 1997, welding machines were still made of traditional technologies, which mainly meant winding copper transformer. Soon after, the industry



witnessed a technological change with the arrival of high frequency electronics in power conversion. In short, the business changed to manufacturing electronic cards. To highlight the significance of the change, it is a bit similar to the evolution from typewriter to computers. To survive, we had to adapt and we used these technological changes to invest in modern production capability. In 1997, we were manufacturing less than 6 000 traditional machines. In 2010, we manufactured more than 350 000 machines.

What is the impact of being a family business in the welding industry?

As a family business, GYS has never really had a short-term approach - what mattered was the excitement of growing the company. Finding new ways to do things, developing products and providing people with challenges, being innovative in our products, manufacturing processes and marketing - these are the things that really have mattered to us. I strongly believe that these long term values associated with a taste for new challenges are the cement of our relationship with our dealers.

Also, many product improvements are a direct result of these relationships with our distributing partners around the world. With thirty two people in R&D and over fifteen persons in production engineering and quality management, GYS can quickly mobilise a team to put its ideas into action. Without our customers, we couldn't have evolved from where we were 14 years ago to where we are today.

**"... long term values associated with a taste for new challenges are the cement of our relationship with our distributing partners"**

Can you tell me about your career path to the welding industry? How do you see your role as CEO of GYS?

I have graduated as an engineer from MIT (USA) and from INSEAD with a MBA. Prior to joining GYS, I made my first experiences in management consulting and finance. My father asked me to join GYS seven years ago and he asked me to undergo a rather intensive program to learn

most aspects of the industry and the business. In particular, I spent a significant amount of time in export markets to visit international clients and to understand each unique market specifics. I then spent a lot of time and energy building the international subsidiaries. Today, I try to spend as much time as possible in the factories and within the R&D teams as this is where GYS drive products and process improvements. It is clear that in today's extremely competitive environment, GYS general management needs to be extremely hands-on and needs to keep a tight control over production issues.

Are you a supporter of the distribution route to the end user? What are your distribution's aims and how will they develop?

We are working closely with welding equipment distributors and importers to market our industrial welding products. We are currently developing a training centre at our factory in France and all our distributors will be invited to

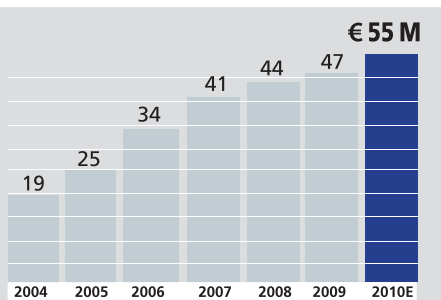
**"... We strive for innovation and in 2010, GYS proudly received three innovation awards"**

visit this centre for training, if they wish to do so. When we talk with our distributing partners, it is interesting that the perception of GYS lags behind the reality. This is normal when a company is growing as fast as we are. As an example of GYS evolution, we received in 2010 three innovation awards. So, we are working hard to visit and talk with the Industry to present the GYS of today.

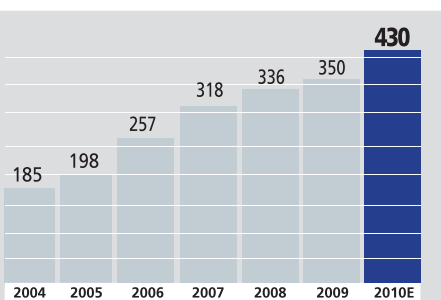
What plans do you have to further develop your arc welding product range?

We are constantly developing new products. In just the last few months, we have introduced MMA, TIG and MIG machines with Green Flexible Voltage technologies to enlarge our product range. These machines have enhanced duty cycles and work effectively on 13A plugs even at 160amps or more or on long extension leads. One of our core strengths is the 32 R&D engineers within GYS and I think that our distributors will soon be surprised with the launch of new and very innovative products during 2011.

Thank you very much.



GYS Group Sales (M€)



No of employees

# GYS

French Manufacturer since 1964

# Welding Machines Battery Chargers Car Body Repair



[www.gys-welding.com](http://www.gys-welding.com)

## MMA welding



### GYSMI 206 FV

- 200 Amp MMA Inverter
- Will weld 5mm electrodes
- Adjustable Hot Start
- TIG Lift Arc - Automatic Downslope
- Operating voltage 85-265V single phase
- PFC equipped
- Made in France



## TIG welding



### TIG 207 AC/DC FV HF

- TIG AC: 10A to 200A (on 230V)
- TIG DC/MMA: 5A to 160A
- 3 TIG Modes - TIG / PULSE TIG / SPOT TIG
- 2 TIMES / 4 TIMES / 4 TIMES LOG
- Operating voltage 85-265V single phase
- PFC equipped
- Made in France



**NEW**

## MIG welding



### PEARL

- 180 Amp MIG Inverter
- 15 Kg wire reel
- Synergic operation
- Operating voltage 85-265V single phase
- PFC equipped
- Made in France



## Integrated production in Laval, France



## 32 R&D engineers



## Proprietary technology from GYS



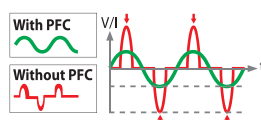
### FLEXIBLE VOLTAGE



Designed to improve the welding result where voltage is unstable, generators are in use or long extension leads are necessary.



### POWER FACTOR CORRECTION



Increasing efficiency by drawing up to 30% less energy from the power source, enabling higher performance (where only 13 amps is available) and reducing energy consumption.

Available on MMA, MIG and TIG machines

## Quality certifications...



## ... and Awards

