



Plant support – next level

S+C Installation Services

Schmidt + Clemens Group

Schmidt + Clemens, established almost 140 years ago, is a privately owned German manufacturer of specialised alloys and components, supplying to the following industries: Petrochemical, Separation Technology, Power Technology and Industrial Furnace Construction.

Materials for use in steam crackers and steam reformers in particular are becoming increasingly capable. At the same time, however, the demands made on the processing and installation of these high-end materials in petrochemical plants are also constantly rising. And this is where S+C Installation Services comes in to play.

We focus fully on the economical but safe-functioning installation into your process plant of coils, harps, reformer tubes, manifolds and t-pieces etc.. This may take place either as part of a new-build project or scheduled shutdown, or in emergency circumstances. But whatever the situation, our goal is always to bring your plant up to the highest possible level of efficiency and availability.



Page **4** Professional training

Optimum welds are an important factor in trouble-free operation of your plant

Page **6** Reliable performance

Experts from S+C ensure the quality of the installation work on site

Page **8** Quality on schedule

We can plan and perform complete exchange of the equipment and technology from top to bottom

Page **10** Speediest response

We are able to supply replacements and perform repairs with almost unrivalled speed



# Why Schmidt + Clemens?

# Know-how that welds together

A chain is always only as strong as its weakest link. Applied to the demands made by steam crackers and steam reformers, that means that even the very best high-performance materials are only as capable as the welding seams that connect them.

Schmidt + Clemens is not only one of the leading experts in special steel solutions for use in the petrochemicals industry, we also know how to optimally join them. We are also glad to share this know-how with you, precisely where it matters: in your plant.

Our Basic Training courses provide you with the knowledge needed for working with high-alloy special steels. The focus is on highly specialised welding techniques and the provision of training in special skills such as grinding, purging and peening. Our Order-related Training programmes are geared to special, order-related welding activities and deal, for example, with space restrictions, geometries and material condition.

All our on-the-job training activities are characterised by their direct practicality, enabling the course participants to put their newly acquired knowledge and skills into practice immediately.

## Basic Training

- Handling our products
- Grinding
- Purging
- Welding
- Peening
- Beveling

## Order related Training

- Job-related welding
- Space restrictions
- Geometries
- Material condition
- Job preparation





# Professional training



# Reliable performance

# Our project team is constantly in action

How economically and durably coils, harps, reformer tubes, manifolds and t-pieces perform depends on how well they are fitted into your plant. That is why the welding experts from S+C Installation Services are directly on site during this phase in order to coordinate and monitor the whole process.

Here, they play an active role in further developing the welders' skills and choosing the best-qualified persons

in each case for a specific job. As part of the work preparation process, they check all the relevant work equipment and subsequently supervise or support the welding work.

We have so far successfully handled over 80 projects in 30 countries in this way, and are especially proud of one achievement in particular: an accident-free work record.



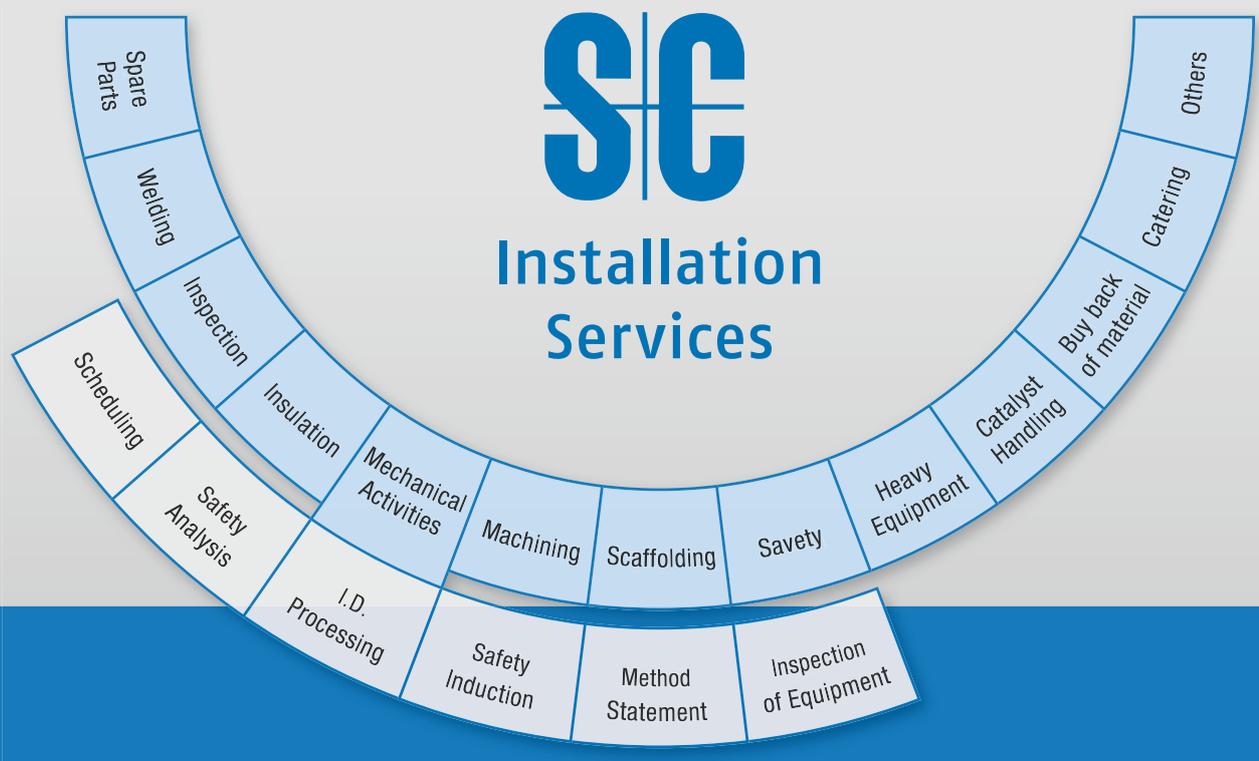
# Doing it new? Then do it right!

In view of increasing demand but falling personnel numbers, our experts are available to assist you, if desired, all the way from setting up the construction site through to recommissioning of the plant and so ensure that you always have sufficient qualified staff on hand.

To make sure your new plant works as efficiently as possible, we will already come on board before dismantling of the existing systems and so analyse the components to be replaced. Our material analyses in this early phase give

you the opportunity to incorporate optimisations in terms of both materials and design into the new system.

“In addition to personnel and know-how, S+C Installation services is also able to make all machinery, tools and materials required available at short notice. And to allow you to concentrate fully on your core business, we will also gladly take care of the project work.”



Quality on schedule

# When you need us, we're there

Ideally, components are replaced in a process of planned exchange. In these cases, we can take care of the entire project preparation, including punctual provision of personnel and materials. A further key advantage of working with S+C Installation Services is that we have very extensive experience in joining up new and aged components. This ensures that when only certain components are exchanged, the old and new parts still work perfectly and durably together.

In emergencies, i.e. in situations where components have to be exchanged suddenly and unexpectedly, you benefit from our speed of response. Thanks to our international production network, we are able to produce all the requisite special steel parts quickly, in

top quality, and also in large quantities. We then deliver them direct to the place of use, where the installation work can begin immediately. As a result, we make an active contribution to reducing plant standstill times and so help to save you money.

With an international network of production plants and sales offices, we are a global player in our business field. Known as a consistently reliable business partner, S+C products are exported to over 85 countries.

Ongoing investments in Research & Development as well as our people, ensures that we work according to the latest technical standards. We use this as a basis to continually improve our products to suit your needs.

## LETTER OF APPRECIATION – JUNE 2016

We employed Schmidt + Clemens in a supervisory capacity for replacement of our Primary Reformer outlet cones, primarily to assist us with the anticipated difficulties associated with making large, heavy-wall, Inconel welds from the new cones to the aged tee-pieces. We initially utilised Schmidt + Clemens to assist us with developing the weld procedures and took their advice on board to refine the procedures such that they were commensurate with welding new to aged material (accounting for the potential for cracking of thermally embrittled aged material). We then employed a third party to carry out the welding itself and immediately ran into problems with cracking of the weld metal, highlighted by radiography of the root and hot pass. The on-site Schmidt + Clemens welding supervisor helped us to develop a new welding sequence, within the confines of our weld procedure, in order to reduce thermal stresses generated during the welding process and thereby prevent cracking of the weld metal. The welding supervisor also helped us with weld setup, argon purging parameters, supervision of individual welder performance and welding programme, working whatever hours were necessary to complete the work. Without the assistance of the Schmidt + Clemens supervisor and the technical backing of the wider Schmidt + Clemens site team, we would have really struggled to identify an appropriate way forward to ensure adequate weld quality. We have found Schmidt + Clemens to be extremely helpful and would not hesitate to use them again in future.

Tom Oates, Ammonia Area Engineer, CF Fertilisers UK Limited





Speediest response



## How can we support you?

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With its "Installation Service" activities, Schmidt + Clemens is equipped and ready for even the most demanding challenges. Try us and find out for yourself just how supportive, cost-effective and reliable cooperation can be. You will be convinced of the value of our services.



# We are ready

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