

Personnel Certification **A Management tool to perform quality in GRP pipe installations.**

The frequent use of GRP (Glass-fibre Reinforced Plastic) pipe installations provides many advances in relation to steel pipe installations. However, for quality instruments and QA systems to perform a predictable GRP installation, quality has to be improved.

The GRP market is known as a market in which price is an important element. End users, manufacturers and contractors, sometimes struggle to realize predictable quality based on all kinds of circumstances. If problems occur, the name of GRP pipes is blamed and the reputation of GRP pipes as a perfect alternative for steel pipes by end users is damaged. All involved have to realize that quality is something we make together.

Specific for GRP pipe installations, quality has to be achieved up front in all aspects because quality control and correction afterwards is not always possible. One of the important quality factors is the installation of GRP pipes on site. Joints in GRP pipes have to be realized under different circumstances, climate conditions and are executed by people with different levels of competence / experience.

A globally accepted competence norm for GRP Field Specialists was not available so manufacturers, contractors, and others made their own specific procedures and trainings to perform quality.

Aramco takes the lead

Aramco, a major end user, did take the initiative and asked DNV in 2008 to set up a globally accepted quality standard for GRP Field Specialists related to the ISO 17024 part 4.

In 2008 DNV invited global major end users, manufacturers and contractors to take part in the DNV GRP Certification Committee to share GRP quality knowledge and expectations of the individual organizations they represent in order to set up Global accepted competence standards for GRP Field Specialists.



Major GRP pipe manufacturers now work together and share information about joint procedures and other quality issues. As result of this cooperation, the Global DNV Certification Committee has now developed competence standards for several GRP Field Specialists.

Qualification of individuals in relation to qualification of GRP pipes and joints

Without qualified GRP pipes and qualified joint procedures, GRP Field Specialists can not be qualified.

The earlier a certification institute approves and qualifies GRP pipes and joint procedures/connections, the earlier a foundation is formed for the assessment of candidates as GRP Field Specialist.

Assessments can be taken on site with available GRP pipes, (manufacturers') joint procedures and tools. Candidates have to show the DNV examiner, that they are able to execute the manufacturers' joint procedures. The final assessment spool will be tested with 2.5 times design pressure over one hour. Candidates who fail will not be certified - even in cases where the joint is not leaking during the test. (We strive for quality and not just the lucky ones).

Assessments and training separated

By Personnel Certification, and according to the ISO 17024 accreditation standard, DNV is not involved in the training of individuals. Manufacturer training programs can be adjusted to the GRP competence standards and candidates will do the local assessment under supervision of DNV.

Once candidates pass the assessment, they will be certified by DNV for their qualification range and be registered in a globally controlled database. Certificates are valid for two years, in which the specific GRP activities have to be acknowledged.

The chain is as strong as the weakest chain link

By starting the Personnel Certification Program for GRP field specialists, all involved are focused on the competence standards for the individual GRP field specialists.

However, during the pilot assessments by end-users, manufacturers and contractors: no precise or no reproducible / measurable joint procedures by some major GRP pipe manufacturers were discovered.

There is now cooperation between major GRP pipe manufacturers in adjusting terms, tools and standards to perform a predictable GRP quality for all involved parties. Because of this, the Personnel Certification Program became a quality tool for more than just the qualification of competences of individuals.

Although this is not part of the qualification system for the individual GRP specialists, the available use of GRP pipes (for on site assessments) creates an extra quality instrument.

The competence profiles already available for the global certification program are:

- Bonder/jointer
- Spool builder A
- Laminator

Future profiles:

By the end of 2010, the next competence profiles will be ready:

- Spool builder B



- GRP Supervisor
- GRP Inspector
- ?? To be decided by the Certification committee

Profession of GRP Field specialists

Parallel to the Steel pipe market in which pipe welders are qualified for their actual skills knowledge and behavior, GRP field specialists have to be recognized in a **specific profession** executed by **certified individuals**.

If Certified GRP Field Specialists are available, all involved can make use of those specialists in order to perform a predictable quality to strengthen the market, name, and reputation of GRP.

We as DNV, believe in a controlled quality system for GRP pipe installations and will, together with the global stake holders within the DNV Certification and Examination Committee, go on with the development of competence standards for personnel skills for GRP Pipe field specialists and make those certified specialists recognized in the GRP market.

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