

Current Situation Middle East

Reasons:

- ☐ Existing Standards needs to be more specific
- ☐ Strict enforcement of Standards through supervision needs to be improved
- ☐ Contractors are **not specialized/certified**
- ☐ Welders are **not trained/certified**

Example ADWEA Standard : Certification of HDPE Welders

“A programme of update training
for PE jointers, including certification
and re-certification of personnel
to ensure competence.”

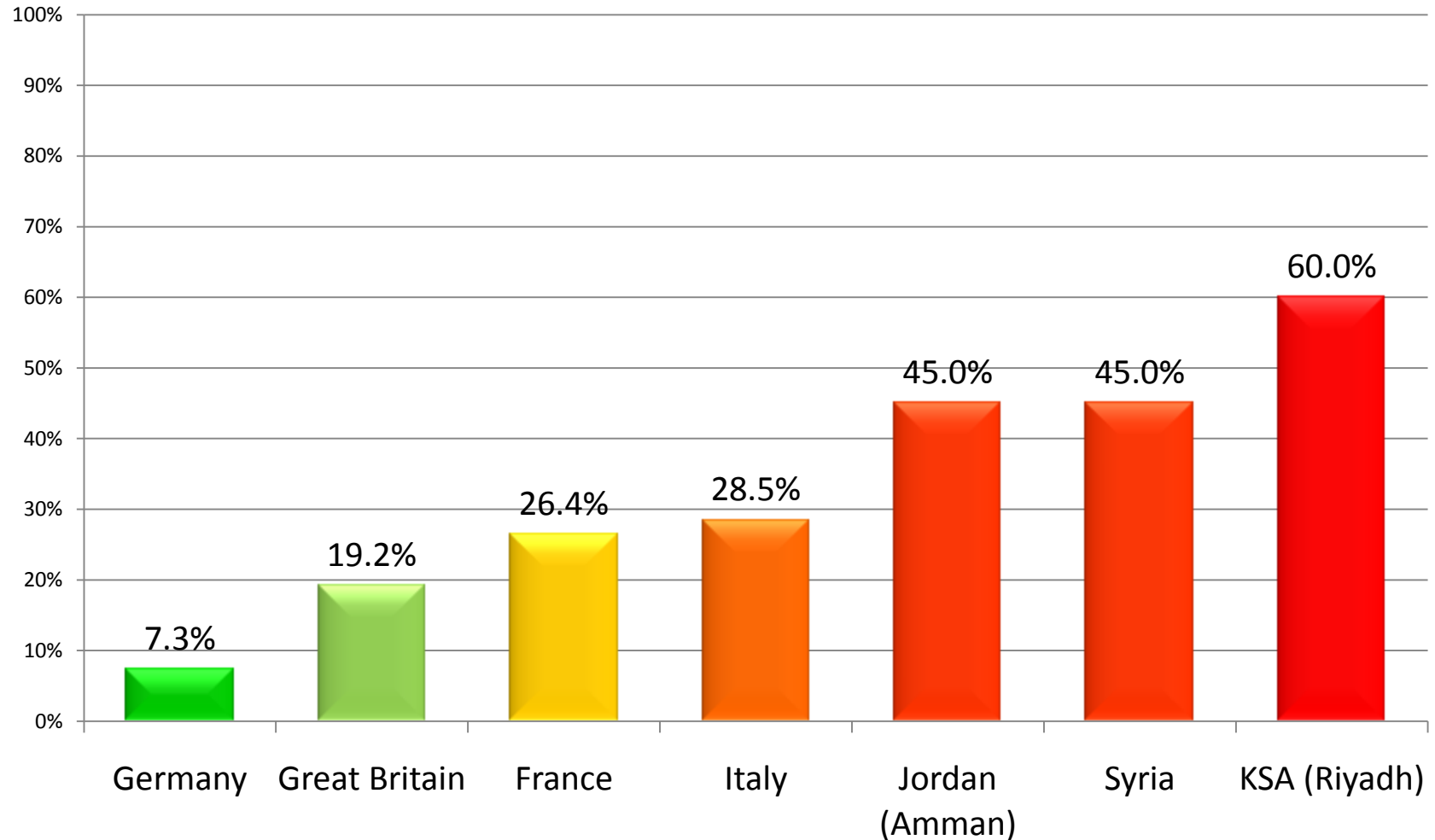
Source: ADWEA specification

“Standard specification for water works - Specification for construction,
testing & commissioning of high density polyethylene (HDPE) pipe system”
ADWEA document W-P-SS-017 rev-1 dated 27-04-2008

Cost of poor Installation

- ☐ **Loosing Money**
- ☐ **Loosing Time**
- ☐ **Loosing Reputation**
- ☐ **Loosing future Projects**

Water Losses @100 ltr. (by Region)



Reducing Riyadh's water loss

ABB flowmeters helps reduce water pipe leakage in Saudi Arabia's capital

FLOWMETERS SUPPLIED BY ABB

are helping the Saudi Arabia's capital, Riyadh, to cut leakage in the water distribution network. ABB has claimed that its FlowMaster flowmeters have helped cut water leakage by nearly 40%. The flowmeters were selected on three separate occasions as part of a large-scale project to modernise the vast but ageing water distribution network of Riyadh. About 60% of Riyadh's valuable water supply is lost through leakage in the 10,000 kilometres of pipes that transport water to the city's 4.5 million population.

The target set by the government-owned National Water Company (NWC)

is to reduce revenues that are more sustainable. ABB has supplied 900 ABB FlowMaster and 900 ABB AquaMaster flowmeters to measure the pressure of water in the network's primary pipeline. Their measurement accuracy in both flow and pressure enables NWC to know exactly how much water is flowing through the main pipeline and to detect leaks as and where they happen.

"These projects required a compact, robust and maintenance-free solution that would measure pressure as well as flow, and transmit the data via the

„About 60% of Riyadh's valuable water supply is lost through leakage in the 10,000 kilometres of pipes...“

communications network central control room," said Adel Al Samirak, ABB's local manager for instrumentation in Saudi Arabia. The solution had to be exceptionally robust, and, for those locations where connection to the power network was not possible, battery-powered technology had to be used.

While both AquaMaster and WaterMaster share the same features, the former is powered by the AC network, with the latter by a single ultra-long-life battery. They can be buried directly in the ground or submersed in water without the need for protective chambers. ■

Article, AUG 20, 2011 AME Info – The ultimate middle east business resource GCC states must address water shortage issues as populations soar

Water has always been a valuable commodity in the desert region, with GCC states boasting robust population growth and ever-soaring demand. Governments must act immediately to ensure that water shortages do not become a reality across the region.

...

Per capita water consumption in the GCC is already the highest in the world, with Dubai leading the charge with the average resident consuming 150 litres per day. This does not include water used for agriculture and landscaping....

...estimated that leaking pipes account for up to 50 % of the water loss in some parts of the region... an alarming statistic ... the Gulf's infrastructure is just a few decades old.

It has been estimated that leaking pipes account for up to 50% of the water loss in some parts of the region - an alarming statistic when you consider that a great deal of the Gulf's infrastructure is just a few decades old.

...

"An important element is to significantly reduce the amount of water lost from the distribution network...

Solutions based on experience



Corrective Action

Repair = **high cost**



Preventive Action

Training & Certification = **low cost**

Preventive Action

Implementing and enforcing
high Standards for Contractors & Welders



Enhance the Quality of the Pipe Network



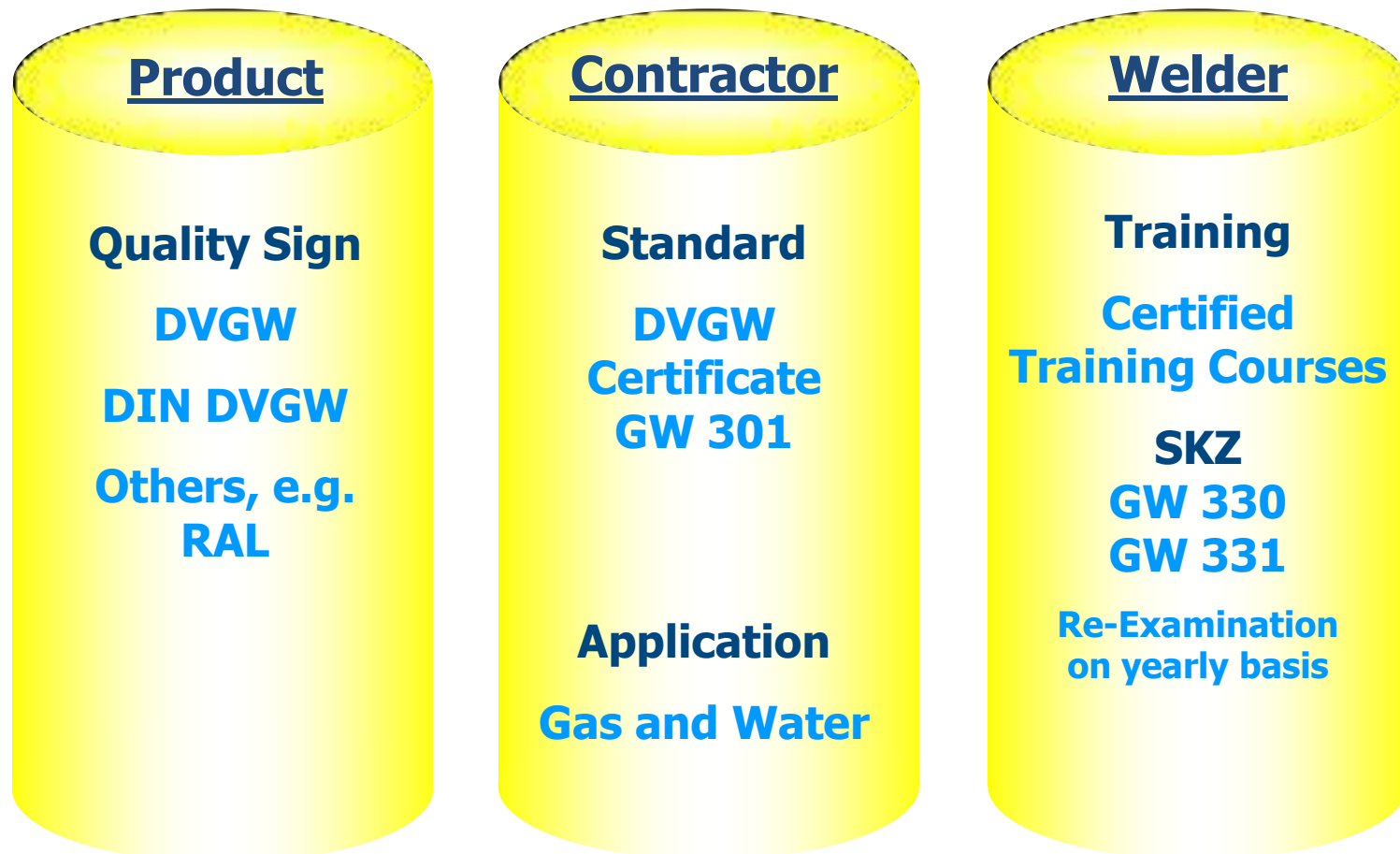
Reduce Water Losses & Maintenance Works



Save Energy & Money



Example: Quality System (Germany)



Contractor

Standard

**DVGW
Certificate
GW 301**

Application

Gas and Water

Certification of Contractors

It is recommended to certify and monitor Contractors involved in HDPE Piping according to International Welding Standards such as the GERMAN Welding Standard DVGW to assure the highest Quality and Safety Standards.

Quality System Germany

Field of Application	Contractor			Welder		Comments and Facts
	Company Qualification	Acknowledged by	Demanded by Client	Welding Staff Qualification	Acknowledged by	
Gas Supply (400 Companies)	GW 301	DVGW	100%	GW 330 GW 331	DVGW accredited training center e.g. SKZ	Safest gas network worldwide about 270,000 km gas distribution network
Water Supply (800 companies)	GW 301	DVGW	80%	GW 330 GW 331	DVGW accredited training center e.g. SKZ	Lowest water losses Germany 7.3% Great Britain 22.0% France 26.4% Italy 28.5% Jordan (Amman) 45.0% Syria 45.0% KSA (Mecca) 46.0%
Sewerage Systems (2250 Companies)	RAL GZ 961	Gueteschutz Kanalbau	60%	GW 330 GW 331 or DVS Standards	DVGW accredited training center e.g. SKZ	One of the largest and best sewerage system in total 515,000 km network almost thirteen times the circumference of the earth.
Building (hot + cold water heating + cooling waste water) > 10,000 companies	Specialists of handicrafts, Master + Technician	Chamber of handicrafts	100% (by law)	Professions e.g. plumber or DVS standards	Chamber of Handicrafts and accredited training center e.g. SKZ	High quality level installation based on the German Handicraft System and dual Education
Industrial Pipe Systems > 1,000 companies	Announcement	Quality System of the clients	100%	different DVS standards	DVS accredited training center e.g. SKZ	Minimum required life time of chemical plants from 10 to 30 years. High industrial standard.

Welder

Training

**Certified Training
Courses**

**SKZ
GW330
GW331**

**Re-Examination
on yearly basis**

Certified HDPE Pipe Welders

To assure the highest Quality and Safety Standards for HDPE Pipe Welding it is recommended to use only Certified HDPE Pipe Welders holding a valid Welding License according to International Welding Standards such as the GERMAN Welding Standard DVGW



Training Centre|UAE



Systematic Training Program

☐ **BASIC Training**

Certified HDPE Pipe Welder GW330 (5 days)

☐ **ADVANCED Training**

Certified HDPE Pipe Welding Supervisor GW331 (5 days)

☐ **EXTENDED Examination**

GW330 / GW331 (Re-fresher courses 1 day)



The new Training Centre in Dubai is a fully equipped facility that offers theoretical courses covering various topics related to plastics, as well as a state of the art welding work shop, providing you with practical training and hands-on experience in welding and testing techniques for pipes and plastic products.



The training program is specially designed for engineers and consultants involved in the design, specifications and supervision of plastic pipeline projects, site supervisors responsible for monitoring onsite welding activities and welding technicians performing onsite welding and installation of HDPE pipe networks.



Butt-Fusion Welding



Calculation of Welding Time and Pressure



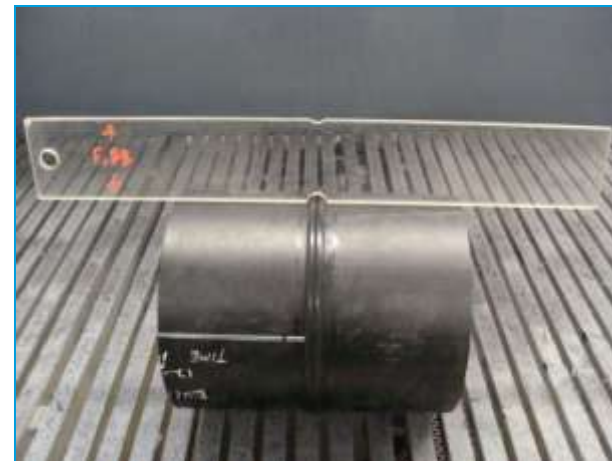
Electro-Fusion Welding



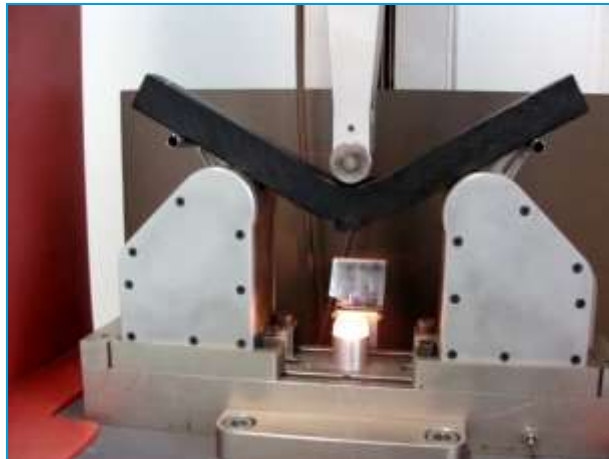
Tapping Saddle Connection



Manual Bending Test



**Visual evaluation (DVS 2202 part 1)
SKZ Laboratory / Wuerzburg (Germany)**



**Technological test DVS 2203 part 5 and DVS 2203 part 2
SKZ Laboratory /Wuerzburg (Germany)**



Certified HDPE Pipe Welder GW330





Monitoring of Certified Welders

☐ Unannounced Site Inspections



References certified HDPE Pipe Welders GW330

- ☐ ADDC - Abu Dhabi Distribution Company
- ☐ ACTION International Services LLC
- ☐ Al-Futtaim Carillion LLC
- ☐ Al Nabooda Laing O'Rourke
- ☐ Albayader Irrigation & Contracting LLC
- ☐ Borouge Pte Ltd
- ☐ Belhasa Projects LLC
- ☐ Bridgeway Electromechanical LLC
- ☐ Build Force (Dubai)
- ☐ CH2MHILL International Ltd
- ☐ Fanoy Gas LLC
- ☐ Gulf Eternit Industries Company Limited
- ☐ Gulf Petrochemical Services & Trading LLC (GPS)
- ☐ Khansaheb Civil Engineering LLC
- ☐ TRAKHEES - JAFZA - Ports, Customs & Free Zone Corporation
- ☐ RTA - Roads and Transport Authority Dubai

High Standards for HDPE Pipe Welding. *Who will benefit?*

- ☐ **Client**

sustainable pipe network

- ☐ **Contractor**

trained stuff, earlier, finished projects

- ☐ **Plastic Pipe Manufacturer**

good reputation

- ☐ **Pipe Welder**

safety, skills



**You get what
you pay for!**

- Growing demand for Welder Training



- SKZ will manage and operate opening a brand new laboratory for plastic testing, with state of the art testing equipment to serve the GCC Market. S
- SKZ will also offer Welder Training & Certification in Abu Dhabi

Conclusion

"The systematic Training and Certification will contribute to the quality and longevity of the underground infrastructure of HDPE pipes, increasing the value of construction projects and considerably extending their service life"



A white flag with the SKZ logo is flying on a tall pole against a clear blue sky. The sun is shining brightly in the upper left, creating a lens flare effect. There are some white clouds on the left side of the frame.

THANK YOU

www.skz-me.com