

# ASSOCIATION FOR POLYMERIC MATERIAL WELDERS HAS BEEN FOUNDED

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It's impossible to slow the rapid rate of progress in the construction industry. The volume of polymeric materials use is increasing every year. New types of polymers, new

pipe designs, new welding techniques for polymeric materials, and new approaches to the construction and renovation of the utility networks are all being devised. These



rapid developments must all be supported by appropriate regulations in pipeline installation, welding, quality control (of the joints), testing, commissioning and operations.

However, regulation in the construction industry lags behind comparable activity, particularly in the plastic pipelines industry, and especially for welding of large diameter pipes with profiled or thick walls. Another hitherto neglected subject in Russian construction legislation is the hot gas and extrusion welding (relating to welding sheets, tanks, films and membranes).

This is a very important issue given that the welding of polymeric materials and goods made of plastic is the last stage of the process. The success of the whole operation depends on the quality of the installation and welding. Unfortunately, incompetence in the polymeric materials, installation and welding processes, as well as lack of regulations, and a lack of qualified specialists all result in poorly executed projects and system failures, i.e. problems during operations. These factors can also lead to refusals from some of the most prospective construction areas, putting the plastic pipes industry in jeopardy.

Entry into the World Trade Organisation, and the impact of the Federal Law on Technical Regulation, both necessitate the creation of new Russian construction regulations (in accord with international legislation, particularly with European standards). Leading legislation organisations have concluded relevant contracts with a number of Western institutes and organisations and can use their expertise in creating new regulations. Therefore, authentic (identical), unified or modified standards can be created in the Russian Federation (see information below).

Currently, there is a Technical Committee, TC 364 “Welding and Related Processes”, covering standardisation issues in welding, and subcommittee SC 12 “Welding and Gluing”, covering polymeric materials. On 14 February 2012 the National Welding Control Agency (NAKS) and the German Welding Society (DVS) signed an agreement on standardisation. The agreement allows drafting of Russian national standards in polymers welding, based on the DVS regulations. It should be noted that Germany has meticulously addressed all subjects related

## FOR INFORMATION

Standardisation is based on the latest achievements in science, technology and practical use, and determines progressive and economically sound solutions for the national economy, industry and production tasks. It encourages the strength and purposefulness of new scientific achievements, and enhances practical use by uniting technologies and expertise.

Standardisation creates organisational and technical grounds for quality products. The increased specialisation and cooperation helps to self-regulate the industry.

**Harmonisation of standards** – adjustment of the content in line with other standards to ensure product (service) substitution, as well as common understanding of test results and the information contained in the standard.

Harmonised (or equivalent) standards can contain some differences: in sense, notes, some special instructions etc. There are related definitions “Identical standards” and “Unified standards”.

**Identical standards** – harmonised standards that are completely identical in content and form. It is often an exact translation of the standard (international, regional) accepted in the national standardization system. They may have difference in identification (marks and codes).

**Unified standards** – harmonised standards that are identical in content but differ in presentation form.

**Modified standards** – standards containing an authentic text of international standard with additions and amendments related to specific nature of the national economy of the Russian Federation.

to the construction of pipelines and other structures made of plastic materials, including the welding and gluing of polymers, and the qualifications of relevant personnel.

However, a detailed study of the experience of our colleagues in the west has shown that not all Western standards are applicable to our conditions. Some issues are absent, not addressed, or unacceptable for our mindset. For example, welding big diameter pipes with wall thicknesses over 70 mm; quality control governing legally acceptable methods for welding gas pipes over 315 mm; welding modes for pipes and sheets at temperatures below 0°C; appropriate welding modes for pipes with different melt flow index etc.

Attempted breakthroughs in the technical regulation of welding plastic materials have been controversial. It has become obvious that this issue cannot be entirely resolved by single market representatives and / or the welding society.

In April 2013 a foundation meeting of the Association for Plastic Material Welders (APMW) was held after six months of consultations and joint preliminary work by representatives from Russia's leading companies and specialists.

The Association was founded by 12 legal entities and six individuals. Members include leading specialists of the polymeric industry including Professor Vladimir Kimelblat, D.Eng.Sc; Vladimir Bukhin, Professor German Komarov, D.Eng.Sc; Vladimir Pavlov and others.

The National Welding Control Agency has played an active role in creating the Association; the organisation deals with technical regulation of welding according to TC 364 "Welding and allied processes".

The Association for Plastic Material Welders has been created to consolidate and coordinate members involved with the welding of plastic materials, to ensure compliance with the main requirements: technical level and methodology, standardisation, marketing, PR and press.

Their mission is as follows:

- The Association initiates and facilitates development and approval of regulatory documents aimed at developing the plastic materials industry in Russia, with regard to quality and safety of products.

- The Association works closely with the National Welding Control Agency and coordinates SC 12 "Welding and gluing of polymers" in TC 364 "Welding and allied processes".

- The Association coordinates its activity with other Russian and foreign industry organisations and research institutes.

- The Association ensures joint participation of its

members in developing best practice in personnel training for everyone involved in polymeric material welding.

- The Association develops and submits recommendations to relevant Governmental bodies on industry strategy in Russia and allied industries.

- The Association forms a professional information pool encouraging business dialogue between its members.

The Association for Plastic Material Welders supports the following groups:

- Russian and CIS (Customs Union countries) producers and suppliers of welding equipment.

- Producers and suppliers of polymeric material goods (pipes, fittings, valves, sheets, plates, membranes and others).

- Producers of tanks and reservoirs, galvanised lines and equipment, industrial ventilation systems, communication and sewer manholes, pumping stations, vessels and other engineering plastics products.

- Dealers and distributors of polymeric products and welding equipment, service companies using plastics with different methods of welding (consumers).

This consolidation of specialists has become possible thanks to the POLYPLASTIC Group providing its material and technical base, its laboratories and research facilities. Most construction and commercial companies understand the importance of welding regulations and have expressed their wish to work in the following areas:

- Welding of plastic materials. Terminology, definitions, notation

- Welding of plastic pipes using butt-fusion equipment

- Electrofusion joining

- Socket joints welding

- Extrusion welding

- Hot gas welding using additives

- Creation of professional standards, training methods and qualification tests for personnel

- Equipment for thermoplastic pipes and sheets welding. Classification and General requirements

- Welded joints quality control methods

The formation of a regulatory base for plastics welding looks set to attract attention from specialists in related industries such as gas distribution, water supply, as well as companies using industrial pipelines, and users of geomembranes, plastic sheets and films etc. Therefore, the creation of this professional association is a very important (and well-timed) step towards the development of improved plastics welding technologies.