AVK APPROVALS

# REQUIREMENTS FOR VALVES USED IN DRINKING WATER APPLICATIONS


## SAFE AND CLEAN DRINKING WATER

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# SAFE AND CLEAN DRINKING WATER

It is essential that quality and safety can be documented. This is where third party approvals come in, by establishing a range of requirements concerning valve components and ready-made valves.

**Quality and safety**
Approvals are especially important for drinking water applications, where it is crucial that the components do not pose a risk of contamination and do not affect taste and smell. Some approvals address specific materials such as rubber, epoxy coating, plastic and brass while others address the entire valve and its function. AVK plays an active part, not only in meeting regulatory requirements, but also in helping to establish them.

**International approvals**
Authorities such as German DVGW, British WRAS, French NF, Dutch KIWA and Swiss SVGW offer standards and approvals for ready-made valves, and these are also recognised and accepted by other countries that presently do not have their own approval regulations. At AVK, it is important for us to comply with the requirements in these countries.

By obtaining and maintaining the most widely accepted water approvals worldwide, we assure our customers that AVK valves always meet the highest quality and safety standards.

**International standard**
One of the major standards in our line of business is EN 1074 which applies to valves for water supply applications. It outlines requirements and test conditions for materials, service life, tightness, operating torques as well as documentation and labelling. According to EN 1074, every one of our valves are tested in production before they are released for sale.

# EU STANDARDS FOR USE OF BRASS

It is evident that the use of brass is of high importance, as it may contaminate the drinking water if not approved for water supply applications.

EU standards for brass have resulted in a positive list of approved brass materials aiming to set limits for cadmium and lead emission that might migrate into the drinking water. Consequently, AVK has implemented a new brass material for all components, which are in contact with drinking water.

By complying with the latest regulations regarding the use of brass material, we take on the responsibility of protecting our drinking water.

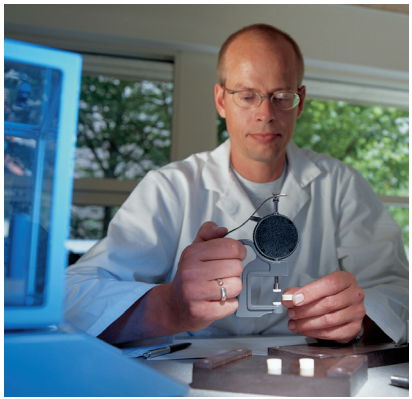
# SUPERIOR CORROSION PROTECTION

We offer strong coatings, all made in-house giving us full control of the supply chain.

**Internal and external epoxy coating**
The majority of AVK products are as standard with internal and external epoxy coating in compliance with DIN 3476 part 1, EN 14901 and GSK guidelines.

Only epoxy manufacturers with the main drinking water approvals are selected for AVK valves. We control each batch of epoxy coated components to ensure a layer thickness of minimum 250 µm, a pore-free surface, high impact resistance and adequate curing.

In addition to our own tests, the independent GSK authorities control the adhesion and cathodic disbonding of the epoxy coating according to their guidelines.



# STATE-OF-THE-ART
# RUBBER TECHNOLOGY

AVK GUMMI A/S develops and manufactures rubber compounds for our products using highly advanced technologies and has developed rubber for drinking water applications that meet the widest possible range of approval requirements. We carry out a number of tests to ensure that compression, adhesion and tensile strength meet the requirements.

**No contamination of the drinking water**
The EPDM rubber recipes are composed with focus on minimising the formation of biofilm. The rubber will therefore not provide breeding ground for bacteria. The drinking water approved EPDM compounds are resistant to ozone and water treatment chemicals, and will remain flexible preventing cracks and damages. The compounds are of course taste, smell and colour neutral.

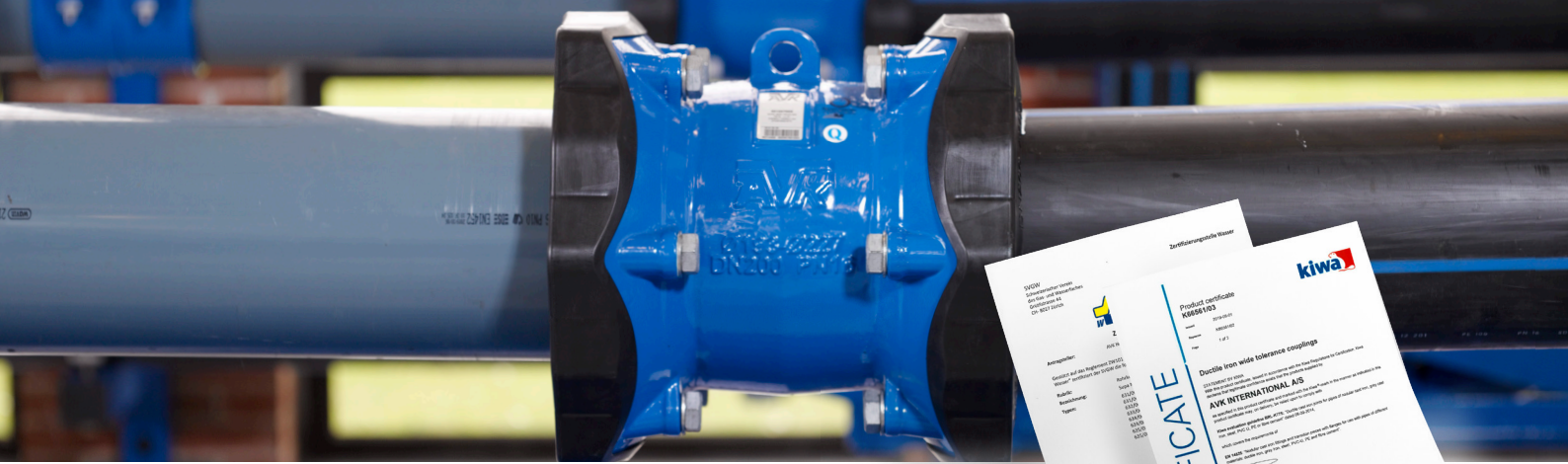
**Excellent ability to regain the original shape**
Impurities will be absorbed in the large layer of rubber in the sealing area when the gate valve is in closed position, ensuring a 100% tight sealing. They are flushed away when the valve is reopened, and the rubber will regain its shape.

# A FULLY WELDED PE PIPE SYSTEM

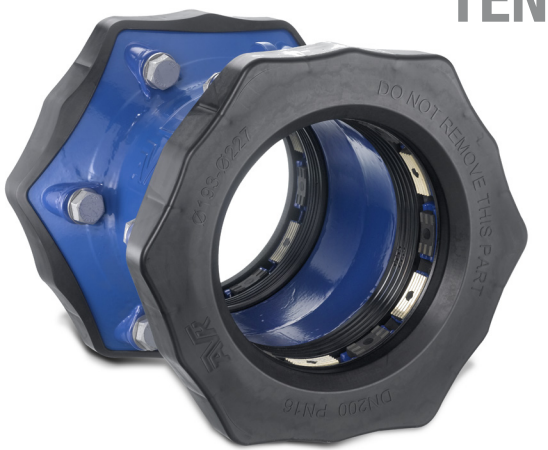
A fully welded PE pipe system offers a lot of benefits such as reduced risk of leakage, ease of installation and a high durability.

To obtain the full advantage, the PE pipe ends on the valve must be made of the same PE material as the PE pipes used in the installation. When using the same PE material for both valves and pipes, the same welding parameters can be used for all joints, and the same PE pipe approvals will be valid throughout the entire system.

For AVK gate valves with PE pipe ends, the valve/pipe connection has no bolts and is stronger than the PE pipe itself. The extra-long pipe ends even leave room for an additional weld. Based on our renowned design, the valves comply to the highest standards and hold worldwide drinking water approvals.




# TYPE APPROVAL FOR UNIVERSAL TENSILE COUPLINGS




Our test procedure for Supa Maxi™ universal tensile couplings exceeds requirements in EN 14525 for water, gas and wastewater applications.

When we launched the Supa Maxi™ range there was not even an official KIWA or DVGW testing regulation available to obtain an official type approval. Therefore, we joined forces with KIWA in Holland and DTI in Denmark to define a valid test procedure and subsequently get the test results verified by KIWA in accordance with the requirements of EN 14525.

Even though tensile couplings are typically used for temporary repairs, which may later be replaced by a more permanent solution, many couplings remain installed on the pipeline throughout their service life. Consequently, long-term reliability is very important.

All AVK Supa Maxi™ couplings are designed according to PN16 test requirements.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