New standard
EN 545:2010
A new era begins

Water supply and distribution
Ductile iron pipes, fittings and accessories

goodbye
K9

SAINT-GOBAIN
P A M
Welcome pressure classes
What is EN 545:2010?
It's a European standard used within the framework of European and international markets for ductile iron pipelines for drinking water.

A European standard
Developed with broad participation by experts of all stakeholders from many countries: Austria, Belgium, France, Germany, Italy, Spain, Swiss, United Kingdom...

An independent standard
Approved after a European consultation (31 member countries) and published under the authority of the European Committee for Standardization (CEN).

The EN 545:2010 standard is on sale online on the following websites:
- AFNOR - www.afnor.org
- BSI - www.bsigroup.com

Pressure classes C and disappearance of K9
Material in contact with drinking water
Sustainable development
Quality management
Improved joint performance

Welcome EN 545:2010!
The new standard EN 545:2010 marks the beginning of a new era!

- Pressure classes
- Material in contact with drinking water
- Sustainable development
- Quality management
- Performances
EN 545:2010 changes

- Simple organization in pressure classes for pipes and fittings
- Preferred pressure classes for standard installations (clause 8.1 table 16)
- Additional pressure classes for specific requirements up to 100 bar (clause 8.1 table 17)
- End of thickness classes (K9, etc.)

Preferred pressure classes

- C40 DN 40 to DN 350
- C30 DN 350 to DN 600
- C25 DN 700 to DN 2000

* allowable operating pressure (PFA)

- The water used in the mortar mix for the internal lining shall comply with Drinking Water Directive 98/83/EC (clause 4.5.3.1)
- The pipeline systems have to be in compliance with national regulations covering materials in contact with drinking water (clause 4.1.4)

- Approximately 20% reduction in the environmental footprint of products (clause 8.1 table 16)
- Increased durability via recommendation of fields of use and a wide choice of protective external coatings (annex D)
- External zinc coating shall not be less than 200g/m² (clause 4.5.2.2)

- Conformity of pipes, joints and accessories must be demonstrated by performance tests and factory production control (clause 9.1)
- Recommendation to have a quality management system in compliance with the ISO 9001:2000 standard (clause 9.3.1)
- EN 545:2010 becomes a standard system by integrating couplings, flanged adaptors and pipe saddles manufactured for use with ductile iron pipes and fittings (clause 5 and 7)

- The new standard defines the need to ensure that components from different suppliers meet the demanding performance requirements of clause 5 and 7 (clause 4.1.3.2)
EN 545:2010 advantages

- A clearer offer
- Solutions for very high pressures
- Calculation method of internal pressure resistance defined in the standard (annex A)
- Simple correspondence between diameter and allowable operating pressure (PFA)

- Assurance of high quality drinking water
- Guarantee of compliance with national legislations or regulations

- Savings on materials and energy
- Long term reliability of water networks, for lifetimes of over 100 years
- Increased durability

- High quality certified
- Undeniable proof of compliance
- The highest safety level on the market

- Guarantee of a more efficient system
- Added assurance for leak free joint performance
PAM played the lead role in the development of new pressure classes.

- NATURAL is available in preferred pressure classes.
- The whole range of PAM products is available in preferred pressure classes.
- HYDROPAM and ALPINAL for higher pressure ranges.
- IRRIGAL for irrigation and URBITAL for recycled water.

EN 545 includes reference to the need for compliance with national water quality regulations where they exist:
- France NF EN 545: ACS
- United Kingdom BS EN 545: DWI, WRAS
- Germany DIN EN 545: DVGW GW337 + W270, KTW

PAM solutions comply with standards and legislation, among which: France (ACS), United Kingdom (Regulation 31.4 and WRAS), Germany (DVGW) and the Netherlands (KIWA).

- PAM is certified to ISO 14001:2004 by a third party organization.
- Zinalium external coating triples the lifetime of pipelines in most situations.
- In 15 years, PAM has reduced energy requirements by an average of 30% to produce a pipe of the same DN.

- PAM is certified to ISO 9001:2008 by a third party organization for design, manufacture and marketing of its products.
- PAM has its own additional technical specifications, which are even more demanding than those of the EN 545 standard.
- PAM provides a complete, consistent and homogeneous range of pipes, fittings and joints, designed and tested for the highest performances.

- PAM has the performance of its joints certified by a third party organization.
- The angular deflection provided by the flexible joints of PAM products are greater than those specified in the standard.
- PAM joints are certified by tests in COFRAC accredited laboratories.

New standard EN 545:2010 - December 2010