EADIPS®
FGR®

European Association for
Ductile Iron Pipe Systems
Fachgemeinschaft Guss-Rohrsysteme

EADIPS®/FGR® STANDARD **2013-06**

Ductile iron pipes and fittings

Marking of ductile iron pipes and fittings

EADIPS®/FGR® 33

Rohre und Formstücke aus duktilem Gusseisen

Kennzeichnung von Rohren und Formstücken

Replaces 2012-02 edition

Amendments

To Normative references
Pressure classes have been included
To Nature and position of markings

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1. Scope

This standard specifies the markings visible on the finished product for non-restrained socket pipes and fittings and for flanged pipes and fittings. This standard is intended to ensure that pipes and fittings complying with EADIPS®/FGR® standards are marked in a standard way and can be clearly identified.

This standard is not concerned with

- the internal markings used during manufacture which are intended as a means of identifying process parameters, core boxes, ladle numbers, etc., or the intermediate markings or in-process markings used in coating and finishing.
- the markings which may be required for particular orders due to special customer requirements for the characteristics of the product. Such markings are decided on from case to case to suit the given order. Care must be taken to see that they cannot be confused with the standard markings.
- written and other markings which are applied at the customer's request in the storage facility before despatch.

2. Normative references

ISO 2531
Ductile iron pipes, fittings, accessories and their joints for water applications
2009-12

ISO 2531 Technical Corrigendum 1
Ductile iron pipes, fittings, accessories and their joints for water applications; Technical Corrigendum 1
2010-11

EN 545
Ductile iron pipes, fittings, accessories and their joints for water pipelines -
Requirements and test methods
2010

EN 598
Ductile iron pipes, fittings, accessories and their joints for sewerage applications -
Requirements and test methods
2007+A1:2009

EN 15189
Ductile iron pipes, fittings and accessories - External polyurethane coating for pipes -
Requirements and test methods
2006

EN 15542
Ductile iron pipes, fittings and accessories - External cement mortar coating for pipes -
Requirements and test methods
2008

EN 15655
Ductile iron pipes, fittings and accessories - Internal polyurethane lining for pipes and fittings -
Requirements and test methods
2009

DIN 30674-3
Sheathing ductile cast iron pipes - Part 3: Zinc coating with protective sheathing (finishing layer)
2001-03

DVGW GW 337
Rohre, Formstücke und Zubehör aus duktilem Gusseisen für die Gas- und Wasserversorgung - Anforderungen und Prüfungen
(Ductile iron pipes, fittings and accessories for the gas and water supply - requirements and test methods)
2010-09

DVGW GW 337-B1
Beiblatt 1 zu DVGW-Prüfgrundlage GW 337 Rohre, Formstücke und Zubehörteile aus duktilem Gusseisen für die Gas- und Wasserversorgung -
Anforderungen und Prüfungen
(Supplement 1 of DVGW testing base GW 337 ductile cast iron pipes, fittings and accessories for gas- and water supply systems –
requirements and test methods)
2011-12

3. Nature and position of markings

The nature and position of the markings are shown in Tables 1 - 5 for ductile iron socket pipes, flanged pipes and fittings.

The reference required to a particular standard can be applied directly to the pipe or fitting or can be shown on the packaging or the waybill/consignment note.

In the case of socket pipes which do not have a welded bead on the spigot end, a line marking will be applied to indicate the insertion depth.

In the case of the reference to the given national standard, such as DIN EN 545 for example, the marking can be abbreviated, e.g. to EN 545.

Supplementary markings specific to the manufacturer may also be applied.

Where there is not enough space for markings, they are to be shown on the packaging or the waybill/consignment note.

3.1
Table 1: Marking of socket pipes

Attribute		Pressure class	Marking		
			Form	**Colour**	**Position**
Material			3 notches or 3 dots	-	Cast on socket end-face or on socket
			GGG	-	
Manufacturer Date of manufacture Nominal size			Manufacturer's mark Year of manufacture DN	-	Cast on the socket
Medium transported	Water	20	C 20	White or black	End-face of socket or barrel of pipe
		25	C 25		
		30	C 30		
		40	C 40		
		50	C 50		
		64	C 64		
		100	C 100		
	Sewage [1]	CE mark	CE	White or black	Barrel of pipe
Outside diameter	Suitability for cutting (DN > 300)		Longitudinal stripe	White or black	On the barrel
Coatings [2]	Cement mortar		EN 15542	White or black	On the barrel
	Polyurethane		EN 15189		
Marking	Marking of auditing body		Certification mark	White or black	On the barrel
Lining [2]	Polyurethane		EN 15655	White	On the barrel

In the case of restrained pipe systems, the allowable pressure (PFA) of pipes is generally lower than their pressure class and should be taken from the manufacturer's catalogues. EADIPS®/FGR® Standard 75 applies to systems of this kind.

[1] EADIPS®/FGR® pipes are generally designed for pressure sewer pipelines and are thus equally suitable for gravity sewer pipelines.

[2] The standard coatings and linings governed by EN 545 and EN 598 do not require any additional marking.

3.2
Table 2: Marking of flanged pipes

Attribute	Marking	
	Form	**Position**
2.1 Pipes with screwed or welded flanges		
Material	3 dots or “GGG”, cast-on	Rear face of flange
Manufacturer Date of manufacture Nominal size	Manufacturer’s mark Year of manufacture DN	Rear face of flange or barrel of pipe
Nominal pressure ratings PN 10 [2)] PN 16 PN 25 PN 40	Cast-on or cold stamped [3)]	Rear face of flange
Mark of auditing body	Test mark Cast-on or painted on	Barrel of pipe or rear face of flange
Sewage [1)]	CE mark	Barrel of pipe or rear face of flange
2.2 Pipes with integrally cast flanges		
Material	3 dots or “GGG”, cast-on	Barrel of pipe
Manufacturer Date of manufacture Nominal size	Cast-on	Barrel of pipe
Nominal pressure ratings PN 10 [2)] PN 16 PN 25 PN 40	Cast-on or cold stamped [3)]	Barrel of pipe or transition to flange
Mark of auditing body	Certification mark Cast-on or painted on	Barrel of pipe
Sewage [1)]	CE mark	Barrel of pipe or rear face of flange

1) EADIPS®/FGR® pipes are generally designed for pressure sewer pipelines and are thus equally suitable for gravity sewer pipelines.
2) Up to and including DN 150, the cast-on pressure rating may also be shown in the form PN 10/16. For hole patterns for larger sizes than DN 150, PN 10, a marking “PN 10/16” is possible where PN 16 undrilled flanged components are used.
3) It must be ensured that markings are still legible after the coating process.

3.3
Table 3: Marking of socket fittings

Attribute	**Marking**	
	Nature	**Position**
Material	3 dots or „GGG“, cast-on	Exterior of socket or on body of fitting
Manufacturer Date of manufacture Nominal size	Manufacturer’s mark Year of manufacture DN	Exterior of socket or on body of fitting
Sewage [1)]	CE	Exterior of socket or on body of fitting
Angle at centre	11; 22; 30 or 45, cast-on	Exterior of socket or on body of fitting
Mark of auditing body	Certification mark Cast-on or painted on	Exterior of socket or on body of fitting
In the case of restrained pipe systems, the allowable pressure (PFA) should be taken from the manufacturer’s catalogues. EADIPS®/FGR® Standard 75 applies to systems of this kind.		

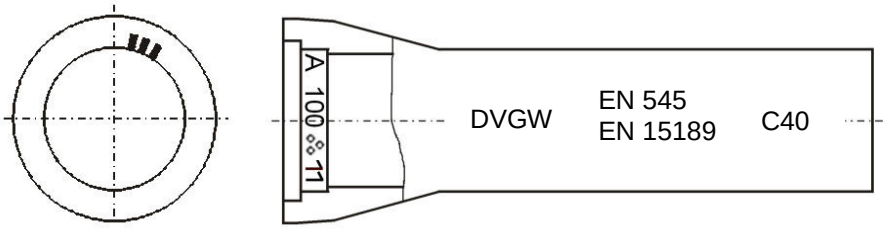
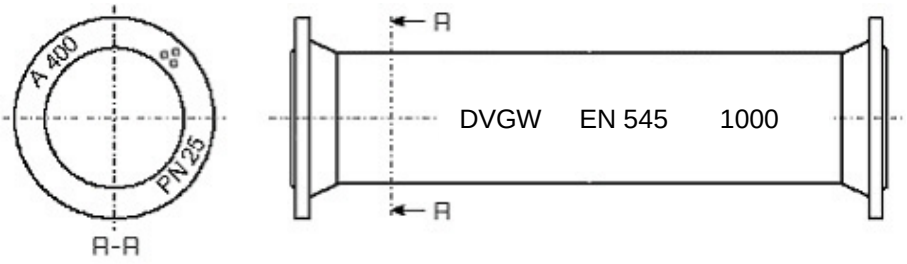
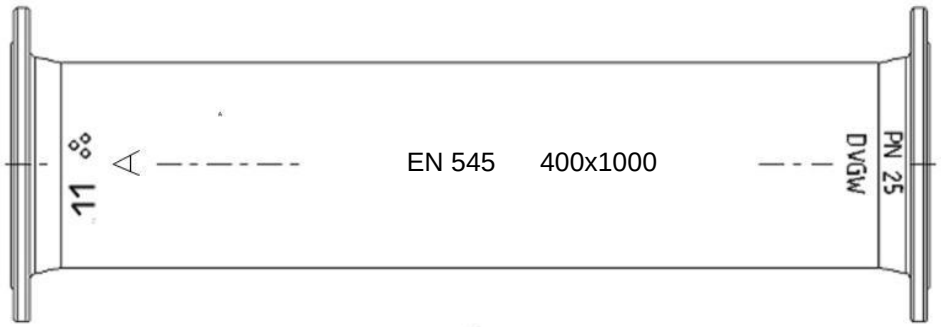
1) EADIPS®/FGR® fittings are generally designed for pressure sewer pipelines and are thus equally suitable for gravity sewer pipelines.

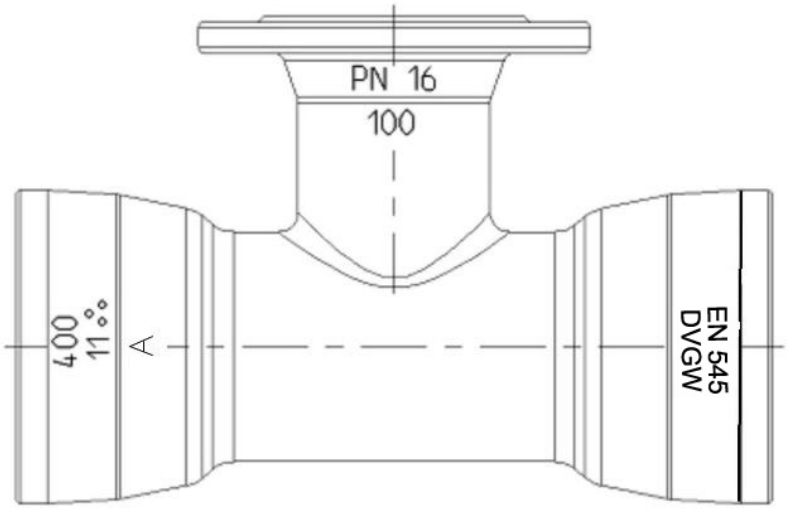
3.4
Table 4: Marking of flanged fittings

Attribute	**Marking**	
	Nature	**Position**
Material	3 dots or “GGG“, cast-on	Transition to flange or body of fitting
Manufacturer Date of manufacture Nominal size	Manufacturer’s mark Year of manufacture DN	On body of fitting
Nominal pressure ratings PN 10 [2)] PN 16 PN 25 PN 40	Cast-on or cold stamped [3)]	Transition to flange or body of fitting
Angle at centre	11; 22; 30 or 45, cast-on	On body of fitting
Sewage [1)]	CE	On body of fitting
Mark of auditing body	Test mark Cast-on or painted on	Exterior of socket or on body of fitting

1) EADIPS®/FGR® flanged fittings are generally designed for pressure sewer pipelines and are thus equally suitable for gravity sewer pipelines.
2) Up to and including DN 150, the cast-on pressure rating may also be shown in the form PN 10/16. For hole patterns for larger sizes than DN 150, PN 10, a marking “PN 10/16” is possible where PN 16 undrilled flanged components are used.
3) It must be ensured that markings are still legible after the coating process.

3.5
Table 5: Drawings

Socket pipes (see Table 1) -Manufacturer's mark „A" -Nominal size DN, e.g. 100 for DN 100 -Material -Year of manufacture, e.g. 11 for 2011 -Certification mark, e.g. DVGW -Product and coating standards, e.g. EN 545 and EN 15189 -Pressure class, e.g. C 40	
Flanged pipes with screwed or welded flanges (see Table 2.1)	
Flanged pipes with integrally cast flanges (see Table 2.2) -Manufacturer's mark „A" -Nominal size DN, e.g. 400 for DN 400 -Material -Pressure rating PN, e.g. PN 25 -Length [mm], e.g. 1000 for 1000 mm -Year of manufacture, e.g. 11 for 2011 -Certification mark -Product standard, e.g. EN 545	

Socket fittings, **e.g. double socket tee with flanged branch** (see Table 3) -Manufacturer's mark „A" -Nominal size DN, e.g. 400/100 for DN 400/100 -Material -Year of manufacture, e.g. 11 for 2011 -Certification mark, e.g. DVGW -Nominal pressure rating of flange, e.g. PN 16 -Product standard, e.g. EN 545	
Flanged fittings, **e.g. double flanged bends** (see Table 4) -Manufacturer's mark „A" -Nominal size DN, e.g. 400 for DN 400 -Material -Year of manufacture, e.g. 11 für 2011 -Certification mark, e.g. DVGW -Nominal pressure rating of flange, e.g. PN 25 -Angle at centre [°], e.g. 45 -Product standard, e.g. EN 545