MAREFLEX®

SOLAS TAPES DESIGNED FOR MARINE APPLICATION

PIPE IDENTIFICATION

PIPE MARKERS AND TAPES

www.mareflex.com

ABOUT US

Mareflex is a European supplier of high quality pipe markers and tapes which provide clear identification of the content of the piping system, flow direction, locations of particular elements and inform about hazardous conditions in plant operational areas.

Properly installed markers serve for many years and improve the level of safety, helping to reduce the amount of downtime and accidents.

All our tapes and markers are digitally printed at an **ISO:9001** approved facility with the use of materials of the first-rate quality.

Mareflex provides comprehensive service, from the design works to the final production steps, which allows to supply not only standardised colour variations, but also fully customised products.

Safe and environmentally friendly printing

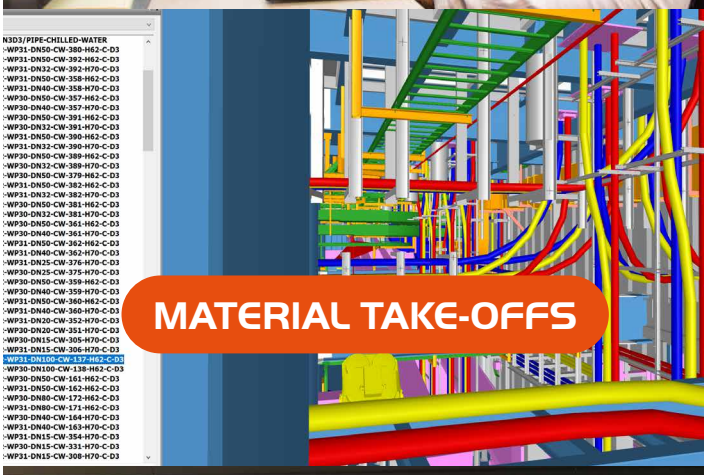
Mareflex Dura Markers are printed with paints, which are **GREENGUARD® and ECOLOGO® Certified to meet some of the world's most rigorous and comprehensive standards for low chemical emissions and a range of stringent human health criteria.** They offer health and environmental advantages - compared to eco-solvent, solvent, or UV-curable inks.

The inks used for Mareflex pipe marking production have no hazard warning labels, contain no Hazardous Air Pollutants (HAPs), are non-flammable and non-combustible, and are nickel-free

ECOLOGO
PRODUCT CERTIFIED FOR REDUCED ENVIRONMENTAL IMPACT. VIEW SPECIFIC ATTRIBUTES EVALUATED: UL.COM/EL
UL 2801

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS UL.COM/GG
UL 2818
GOLD

MEETS ISO 14726



PIPE MARKERS & TAPES

COMPARISON

AS10 ECONOMY DURA MARKERS

A cost-effective solution dedicated for indoor and outdoor use in areas with limited exposure to direct sunlight. It offers fair durability, good flexibility and a service temperature up to 80°C. Recommended for newly installed pipes. It is the most economical solution for pipeline identification.

AS11 ADVANCED DURA MARKERS

Resistant to high temperatures up to 130°C, self-adhesive polyester markers offer a longer service lifetime. Due to the protective laminate layer, pipe markers have improved colour fastness and excellent resistance to prolonged sunlight exposure. Suitable for use in harsh weather conditions in marine and offshore environments.

AS12 PRE-COILED DURA MARKERS

High performance pre-coiled markers recommended for areas which are highly exposed to sunlight, difficult weather conditions and chemicals. Their special design of a non-adhesive tube allows for use on wet, oily, cold and dusty pipelines. Do not require surface preparation, can be easily removed and reapplied to other areas.

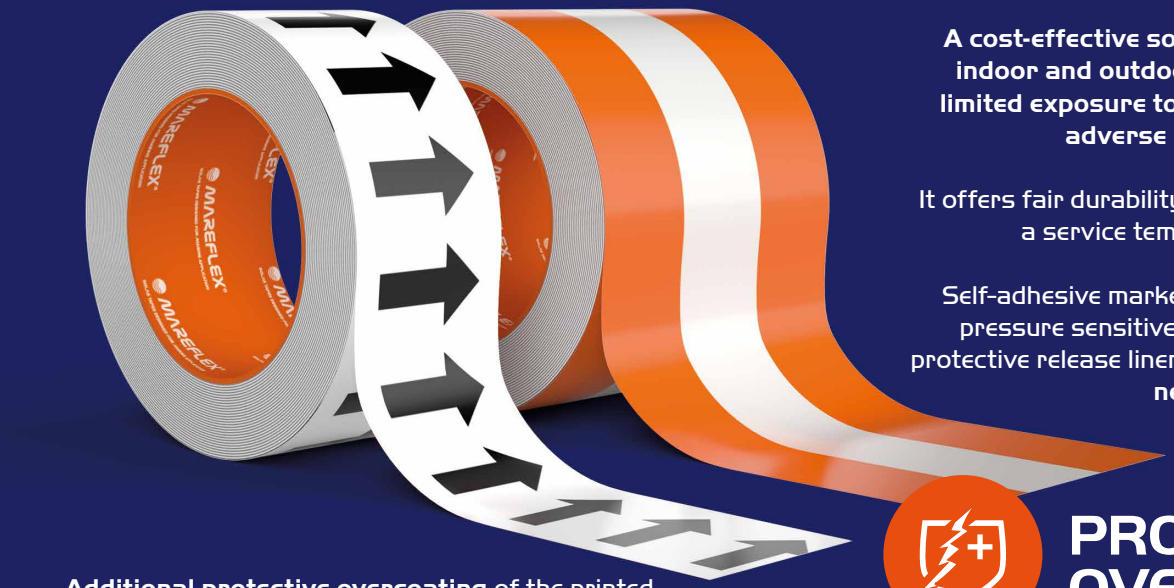
TECHNICAL DETAILS

* The actual lifetime of the markers depends on the particular conditions of use. Please contact our specialists for more information.

	AS10	AS11	AS12
Service temperature	-40°C to +80°C	-40°C to +130°C	-40°C to +130°C
Surface preparation	Yes	Yes	No
Mounting method	Self-adhesive	Self-adhesive	Pre-coiled, self-bonding
UV resistance	Good	Excellent	Excellent
Weather resistance	Very good	Excellent	Excellent
Chemical resistance	Good	Very good	Excellent
Sea water resistance	Yes	Yes	Yes
Reuse after removing	No	No	Yes
Service lifetime	3-8 years*	5-10 years*	5-10 years*

AS10 ECONOMY DURA MARKERS

Basic pipe marking solution for indoor and outdoor installations



A cost-effective solution dedicated for indoor and outdoor use in areas with limited exposure to direct sunlight and adverse weather conditions.

It offers fair durability, good flexibility and a service temperature up to 80°C.

Self-adhesive markers are equipped with pressure sensitive acrylic adhesive and protective release liner. **Recommended for newly installed pipes.**

Additional protective overcoating of the printed surface reduces paint aging and inproves scratch-resistance.

PROTECTIVE OVERCOAT

SERVICE TEMPERATURE: **-40°C TO +80°C**

SERVICE LIFETIME: **3-8 YEARS***

TECHNICAL DETAILS

Material	self-adhesive vinyl
Protective layer	overcoat lacquer
Service temperature	-40°C to +80°C
Surface preparation	Yes
Mounting method	Self-adhesive
UV resistance	Good
Weather resistance	Very good
Chemical resistance	Good
Sea water resistance	Yes
Reuse after removing	No
Service lifetime	3-8 years*

FEATURES

- **fair resistance to weather conditions and UV rays**
- **economical and easy to use**
- **no minimum quantity**
- **custom widths with any texts and graphics on demand**
- **high quality acrylic adhesive**
- **protective overcoat on printed surface**

AVAILABILITY

ROLLS

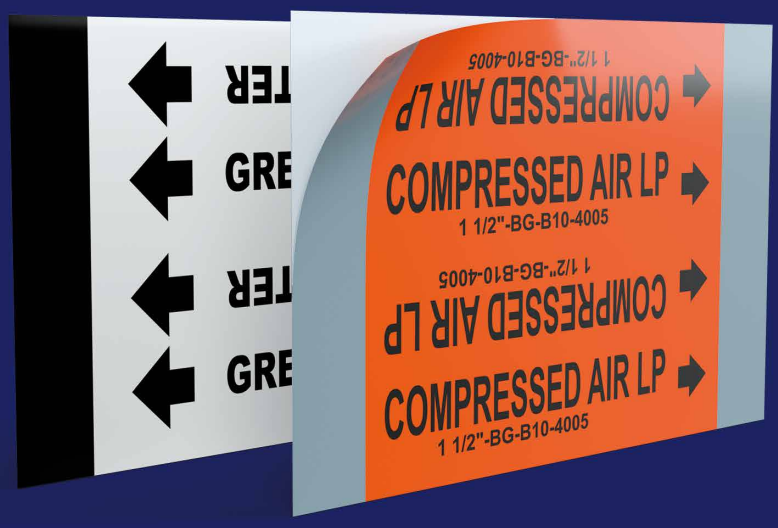
MARKERS

* The actual lifetime of the markers depends on the particular conditions of use. Please contact our specialistsfor more information.

AS11

ADVANCED DURA MARKERS

Higher temperature resistant pipe markers with prolonged durability



Resistant to high temperatures up to 130°C, self-adhesive polyester markers offer a longer service lifetime.

Due to the protective laminate layer, pipe markers have improved colour fastness and excellent resistance to prolonged sunlight exposure. A very good chemical resistance ensures reliable material performance.

Suitable for use in harsh weather conditions in marine and offshore environments.

SERVICE TEMPERATURE: **-40°C TO +130°C**

SERVICE LIFETIME: **5-10 YEARS***

TECHNICAL DETAILS

Material	self-adhesive polyester
Protective layer	long-life polyester laminate
Service temperature	-40°C to +130°C
Surface preparation	Yes
Mounting method	Self-adhesive
UV resistance	Excellent
Weather resistance	Excellent
Chemical resistance	Very good
Sea water resistance	Yes
Reuse after removing	No
Service lifetime	5-10 years*

FEATURES

- high temperature resistance up to 130°C
- excellent resistance to harsh weather conditions and UV rays
- very good chemical resistance
- scratch-resistant
- custom widths with any texts and graphics on demand
- high quality acrylic adhesive

AVAILABILITY

ROLLS

MARKERS

* The actual lifetime of the markers depends on the particular conditions of use. Please contact our specialistsfor more information.

AS12

PRE-COILED DURA MARKERS

Most advanced pipe markers for quick and easy installation

REUSABLE

High performance pre-coiled markers recommended for environments which are highly exposed to sunlight, difficult weather conditions and chemicals. Their special design of a non-adhesive tube allows for easy installation on wet, oily, cold and dusty pipelines. Do not require surface preparation, can be easily removed and reapplied to other areas.

SERVICE TEMPERATURE: **-40°C TO +140°C**

SERVICE LIFETIME: **5-10 YEARS***

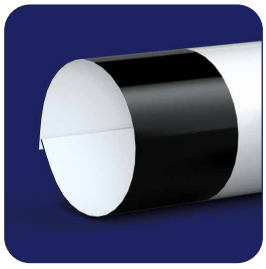
TECHNICAL DETAILS

Material	high durability polyester
Protective layer	long-life polyester laminate
Service temperature	-40°C to +130°C
Surface preparation	No
Mounting method	Pre-coiled, self-bonding
UV resistance	Excellent
Weather resistance	Excellent
Chemical resistance	Excellent
Sea water resistance	Yes
Reuse after removing	Yes
Service lifetime	5-10 years*

FEATURES

- **excellent durability and long service life**
- **excellent resistance to UV, chemicals and sea water**
- **pre-coiled for easier installation**
- **no surface preparation required**
- **custom widths with any texts and graphics on demand**
- **can be reused**

AVAILABILITY



PRECOILED MARKERS

* The actual lifetime of the markers depends on the particular conditions of use. Please contact our specialistsfor more information.

BASIC IDENTIFICATION ACC. TO ISO 14726:2008

The ISO 14726:2008 standard (International Standard Organization), specifies the principle colours for the identification of media in pipes. It also specifies additional colour variations for different media or functions.

DESCRIPTION	COLOUR	ORDER CODE	ISO	ISSA	IMPA
WASTE MEDIA	RAL 9005 BLACK (BK)	MC40	ISO 5001	47.521.40	33.2140
FRESH WATER	RAL 5015 BLUE (BU)	MC41	ISO 5008	47.521.41	33.2141
FUEL	RAL 8001 BROWN (BN)	MC42	ISO 5018	47.521.42	33.2142
SEA WATER	RAL 6018 GREEN (GN)	MC43	ISO 5031	47.521.43	33.2143
NON-FLAMMABLE GASES	RAL 7001 GREY (GY)	MC44	ISO 5038	47.521.44	33.2144
AIR AND SOUNDING PIPES	RAL 8015 MAROON (MN)	MC45	ISO 5052	47.521.45	33.2145
OIL OTHER THAN FUELS	RAL 2003 ORANGE (OG)	MC46	ISO 5055	47.521.46	33.2146
STEAM	RAL 9006 SILVER (SR)	MC47	ISO 5101	47.521.47	33.2147
FIRE FIGHTING	RAL 3000 RED (RD)	MC48	ISO 5065	47.521.48	33.2148
ACIDS & ALKALIS	RAL 4001 VIOLET (VT)	MC49	ISO 5050	47.521.49	33.2149
AIR IN VENTILATION SYSTEMS	RAL 9010 WHITE (WH)	MC50	ISO 5079	47.521.50	33.2150
FLAMMABLE GASES	RAL 1021 YELLOW (YEO)	MC51	ISO 5091	47.521.51	33.2151
FLOW DIRECTION MARKING		FD30	ISO 5099	47.521.30	33.2130

MULTI-COLOUR PERMUTATIONS

Multi-color variations for different media or functions.

DESCRIPTION	COLOUR	ORDER CODE	ISO	ISSA
WASTE MEDIA	BK	MC40	ISO 5001	47.521.40
BLACK WATER	BK BU BK	MC40-41	ISO 5002	47.521.40 + 47.521.41 + 47.521.40
WASTE OIL / USED OIL	BK BN BK	MC40-42	ISO 5003	47.521.40 + 47.521.42 + 47.521.40
BILGE WATER	BK GN BK	MC40-43	ISO 5004	47.521.40 + 47.521.43 + 47.521.40
EXHAUST GAS	BK GY BK	MC40-44	ISO 5005	47.521.40 + 47.521.44 + 47.521.40
GREY WATER	BK WH BK	MC40-50	ISO 5006	47.521.40 + 47.521.50 + 47.521.40
SEWAGE - CONTAMINATED	BK YEO BK	MC40-51	ISO 5007	47.521.40 + 47.521.51 + 47.521.40
FRESH WATER	BU	MC41	ISO 5008	47.521.41
FRESH WATER, SANITARY	BU BN BU	MC41-42	ISO 5009	47.521.41 + 47.521.42 + 47.521.41
POTABLE WATER	BU GN BU	MC41-43	ISO 5010	47.521.41 + 47.521.43 + 47.521.41
DISTILLATE	BU GY BU	MC41-44	ISO 5011	47.521.41 + 47.521.44 + 47.521.41
GAS TURBINE WASH WATER	BU OG BU	MC41-46	ISO 5012	47.521.41 + 47.521.46 + 47.521.41
FEED WATER	BU SR BU	MC41-47	ISO 5014	47.521.41 + 47.521.47 + 47.521.41
COOLING FRESH WATER	BU VT BU	MC41-49	ISO 5015	47.521.41 + 47.521.49 + 47.521.41

CHILLED WATER	BU WH BU	MC41-50	ISO 5016	47.521.41 + 47.521.50 + 47.521.41
CONDENSATE	BU YEO BU	MC41-51	ISO 5017	47.521.41 + 47.521.51 + 47.521.41
FUEL	BN	MC42	ISO 5018	47.521.42
HEAVY FUEL OIL (HFO)	BN BK BN	MC42-40	ISO 5019	47.521.42 + 47.521.40 + 47.521.42
AVIATION FUEL	BN BU BN	MC42-41	ISO 5020	47.521.42 + 47.521.41 + 47.521.42
BIOLOGICAL FUEL	BN VT BN	MC42-49	ISO 5022	47.521.42 + 47.521.49 + 47.521.42
GAS-TURBINE FUEL	BN WH BN	MC42-50	ISO 5023	47.521.42 + 47.521.50 + 47.521.42
MARINE DIESEL FUEL (MDO)	BN YEO BN	MC42-51	ISO 5024	47.521.42 + 47.521.51 + 47.521.42
SEA WATER	GN	MC43	ISO 5031	47.521.43
DECONTAMINATION WATER	GN BU GN	MC43-41	ISO 5032	47.521.43 + 47.521.41 + 47.521.43
SEA WATER, SANITARY	GN BN GN	MC43-42	ISO 5033	47.521.43 + 47.521.42 + 47.521.43
BALLAST WATER	GN VT GN	MC43-49	ISO 5034	47.521.43 + 47.521.49 + 47.521.43
COOLING SEA WATER	GN YEO GN	MC43-51	ISO 5035	47.521.43 + 47.521.51 + 47.521.43
NON-FLAMMABLE GASES	GY	MC44	ISO 5038	47.521.44
OXYGEN	GY BU GY	MC44-41	ISO 5039	47.521.44 + 47.521.41 + 47.521.44
INERT GAS	GY BN GY	MC44-42	ISO 5040	47.521.44 + 47.521.42 + 47.521.44
NITROGEN	GY GN GY	MC44-43	ISO 5041	47.521.44 + 47.521.43+ 47.521.44
REFRIGERANT	GY MN GY	MC44-45	ISO 5042	47.521.44 + 47.521.45 + 47.521.44
COMPRESSED AIR LP (LOW PRESSURE)	GY OG GY	MC44-46	ISO 5043	47.521.44 + 47.521.46 + 47.521.44
COMPRESSED AIR HP (HIGH PRESSURE)	GY RD GY	MC44-48	ISO 5045	47.521.44 + 47.521.48 + 47.521.44
CONTROL AIR / REGULATING AIR	GY VT GY	MC44-49	ISO 5046	47.521.44 + 47.521.49 + 47.521.44
BREATHING AIR*	GY WH GY	MC44-50	ISO 5047	47.521.44 + 47.521.50 + 47.521.44
BREATHING GAS*	GY YEO GY	MC44-51	ISO 5048	47.521.44 + 47.521.51 + 47.521.44
AIR AND SOUNDING PIPES	MN	MC45	ISO 5052	47.521.45
WASTE MEDIA	MN BK MN	MC45-40	–	47.521.45 + 47.521.40 + 47.521.45
FRESH WATER	MN BU MN	MC45-41	–	47.521.45 + 47.521.41 + 47.521.45
FUEL	MN BN MN	MC45-42	–	47.521.45 + 47.521.42 + 47.521.45
SEA WATER	MN GN MN	MC45-43	–	47.521.45 + 47.521.43 + 47.521.45
NON-FLAMMABLE GASES	MN GY MN	MC45-44	–	47.521.45 + 47.521.44 + 47.521.45
OIL OTHER THAN FUELS	MN OG MN	MC45-46	–	47.521.45 + 47.521.46 + 47.521.45
STEAM	MN SR MN	MC45-47	–	47.521.45 + 47.521.47 + 47.521.45
FIRE FIGHTING	MN RD MN	MC45-48	–	47.521.45 + 47.521.48 + 47.521.45
ACIDS, ALKALIS	MN VT MN	MC45-49	–	47.521.45 + 47.521.49 + 47.521.45
VENTILATION SYSTEM	MN WH MN	MC45-50	–	47.521.45 + 47.521.50 + 47.521.45
FLAMMABLE GASES	MN YEO MN	MC45-51	–	47.521.45 + 47.521.51 + 47.521.45
ACIDS & ALKALIS	VT	MC49	ISO 5050	47.521.49

OIL OTHER THAN FUELS	OG	MC46	ISO 5055	47.521.46
THERMAL FLUID	OG BU OG	MC46-41	ISO 5057	47.521.46 + 47.521.41 + 47.521.46
LUBRICAITION OIL FOR GAS TURBINES	OG GN OG	MC46-43	ISO 5059	47.521.46 + 47.521.43 + 47.521.46
HYDRAULIC FLUID	OG GY OG	MC46-44	ISO 5060	47.521.46 + 47.521.44 + 47.521.46
LUBRICAITION OIL FOR STEAM TURBINES	OG SR OG	MC46-47	ISO 5061	47.521.46 + 47.521.47 + 47.521.46
LUBRICAITION OIL FOR GEARS	OG VT OG	MC46-49	ISO 5062	47.521.46 + 47.521.49 + 47.521.46
LUBRICAITION OIL FOR INT. COMBUSTION ENGINES	OG YE0 OG	MC46-51	ISO 5063	47.521.46 + 47.521.51 + 47.521.46
STEAM	SR	MC47	ISO 5101	47.521.47
STEAM FOR HEATING PURPOSES	SR BK SR	MC47-40	ISO 5102	47.521.47 + 47.521.40 + 47.521.47
DRIVING STEAM	SR GN SR	MC47-43	–	47.521.47 + 47.521.43 + 47.521.47
EXHAUST STEAM	SR WH SR	MC47-50	ISO 5106	47.521.47 + 47.521.50 + 47.521.47
SUPPLY STEAM	SR YE0 SR	MC47-51	ISO 5107	47.521.47 + 47.521.51 + 47.521.47
FIRE FIGHTING / FIRE PROTECTION	RD	MC48	ISO 5065	47.521.48
FIRE-FIGHTING WATER	RD GN RD	MC48-43	ISO 5067	47.521.48 + 47.521.43 + 47.521.48
FIRE-FIGHTING GAS	RD GY RD	MC48-44	ISO 5068	47.521.48 + 47.521.44 + 47.521.48
SPRINKLER WATER	RD OG RD	MC48-46	ISO 5069	47.521.48 + 47.521.46 + 47.521.48
SPRAY WATER	RD VT RD	MC48-49	ISO 5070	47.521.48 + 47.521.49 + 47.521.48
FIRE-FIGHTING POWDER	RD WH RD	MC48-50	ISO 5071	47.521.48 + 47.521.50 + 47.521.48
FIRE-FIGHTING FOAM	RD YE0 RD	MC48-51	ISO 5072	47.521.48 + 47.521.51 + 47.521.48
AIR IN VENTILATION SYSTEMS	WH	MC50	ISO 5079	47.521.50
DISCHARGE AIR	WH BK WH	MC50-40	ISO 5080	47.521.50 + 47.521.40 + 47.521.50
MECHANICAL SUPPLY AIR - COLD	WH BU WH	MC50-41	ISO 5081	47.521.50 + 47.521.41 + 47.521.50
NATURAL EXHAUST AIR	WH BN WH	MC50-42	ISO 5082	47.521.50 + 47.521.42 + 47.521.50
ATMOSPHERIC AIR	WH GN WH	MC50-43	ISO 5083	47.521.50 + 47.521.43 + 47.521.50
MECHANICAL EXHAUST AIR	WH GY WH	MC50-44	ISO 5084	47.521.50 + 47.521.44 + 47.521.50
DECONTAMINATED SUPPLY AIR	WH MN WH	MC50-45	ISO 5085	47.521.50 + 47.521.45 + 47.521.50
MECHANICAL RECIRCULATED AIR	WH OG WH	MC50-46	ISO 5086	47.521.50 + 47.521.46 + 47.521.50
MECHANICAL SUPPLY AIR - WARM	WH SR WH	MC50-47	ISO 5087	47.521.50 + 47.521.47 + 47.521.50
SMOKE CLEARANCE	WH RD WH	MC50-48	ISO 5088	47.521.50 + 47.521.48 + 47.521.50
CONDITIONED SUPPLY AIR	WH VT WH	MC50-49	ISO 5089	47.521.50 + 47.521.49 + 47.521.50
NATURAL SUPPLY AIR	WH YE0 WH	MC50-51	ISO 5090	47.521.50 + 47.521.51 + 47.521.50
FLAMMABLE GASES	YE0	MC51	ISO 5091	47.521.51
HYDROGEN	YE0 BN YE0	MC51-41	ISO 5092	47.521.51 + 47.521.41 + 47.521.51
ACETYLENE	YE0 GY YE0	MC51-44	ISO 5093	47.521.51 + 47.521.44 + 47.521.51
LIQUID GAS	YE0 VT YE0	MC51-49	ISO 5094	47.521.51 + 47.521.49 + 47.521.51

* Intended for use in submarines for distribution systems used for breathing air from cylinders.

DESIGN AND DIMENSIONS

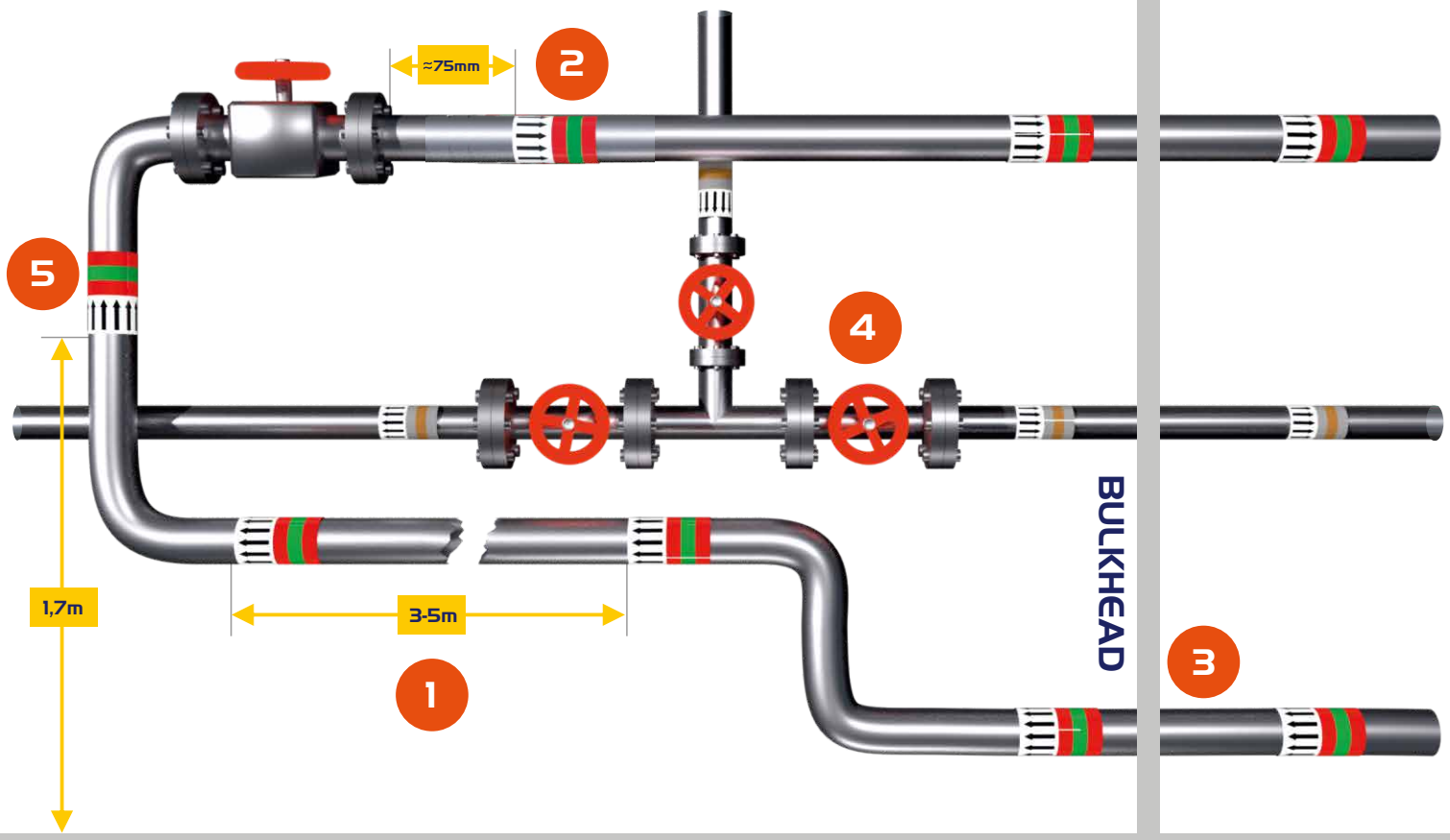
Mareflex pipe markers **can be produced in accordance with the specific requirements** of our customers and can be designed to comply with one of the following regulations:

ISO 14726:2008
BS-1710 / BS-4800
ANSI/ASME A13-1
TRGS-201

Mareflex tapes and markers can be printed in any language based on translation provided by a customer.

NOMINAL PIPE DIAMETER	PIPE DIAMETER (INCH)	MARKER LENGTH (MM)	LETTER HEIGHT (MM)	ARROW HEIGHT (MM)
DN15	0,5"	100	6,5	16
DN20	0,75"	115	13	16
DN25	1"	135	13	16
DN32	1,25"	165	19	19
DN40	1,5"	190	19	19
DN50	2"	230	19	19
DN65	2,5"	270	32	32
DN80	3"	320	32	32
DN100	4"	395	32	32
DN150	6"	580	32	32
DN200	8"	760	32	32
DN250	10"	945	32	32
DN300	12"	1120	32	32
DN400	16"	1400	32	32
DN450	18"	1580	32	32
DN500	20"	1750	32	32
DN750	28"	2550	32	32

- Each pipe marker is dedicated to a particular pipe diameter.
- The table shows recommended marker dimensions for most popular nominal pipe sizes. Each marker length comes with suitable font and arrow sizes.
- The sizes include a minimum 30mm overlap, however they do not include any additional pipe coatings like insulation etc.
- Information about insulation thickness or other coatings should be provided with other details necessary for the quotation.



INSTALLATION TIPS

During application the tape should overlap 2-4 cm

Properly installed markers serve for many years and improve the level of occupational safety, helping to reduce the amount of downtime and accidents. **According to the ISO 14726:2008 regulation, the following points should be considered during the installation of pipe markers:**

1. Markers should be installed within a 3-5m distance between each marking point on a horizontal and vertical pipeline. Branched pipes or close proximity to pipes carrying different media may require a more frequent marking.
2. In case of valves, markers should be installed at a distance of approx. 75mm from the corresponding flange.
3. Markers should be mounted at all penetration points in walls, bulkheads or decks.
4. Markers should be installed on each side of the pipe branch.
5. In case of a vertical piping system, markers should be applied at a height of approx. 170cm to ensure good visibility.

The exact estimation of the quantity of markers and installation points is determined at the stage of material preparation. Our specialists can offer you professional advice based on the provided pipeline scheme and detailed specifications.

MAREFLEX®

SOLAS TAPES DESIGNED FOR MARINE APPLICATION

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