



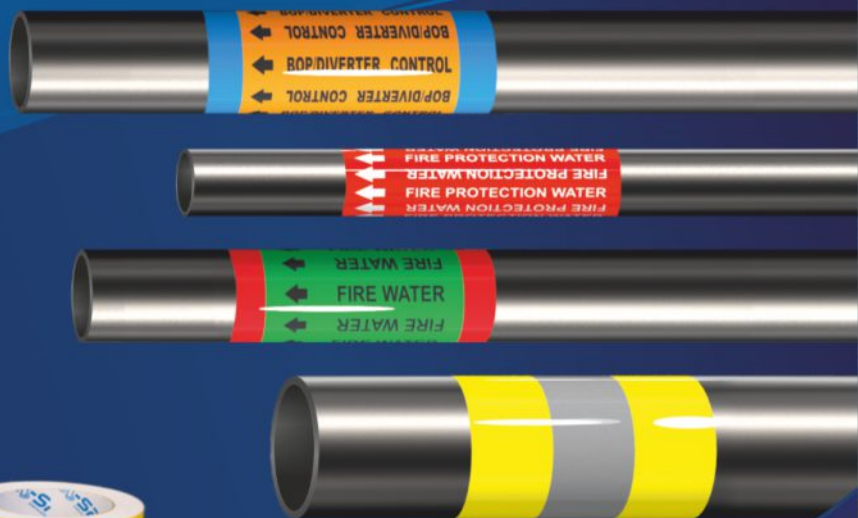
PROCESS

LABELING

Pipe Markers and Tapes

INDEX

About us	3
Pipe Markers and Tapes - comparison	4
AS-10 Vinyl Tapes and Markers	5
AS-11 High-Temperature Tapes and Markers	6
AS-12 Dura-Markers	7
Colour coding according to ISO 14726	8
Design and dimensions	10
Installation tips	11



ABOUT US

A-SPE is a European manufacturer of high quality tapes and markers which provide clear identification of the contents of the piping system, identify locations of particular elements and inform about hazardous conditions in plant operation areas. Properly installed markers serve for many years and improve the level of safety, helping to reduce the amount of downtime and accidents.

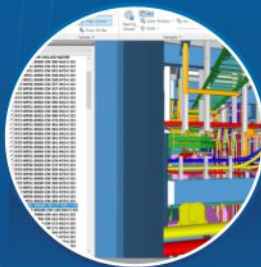
All our tapes and markers are produced at an ISO 9001 approved facility with the use of materials of the highest quality.

A-SPE provides comprehensive services of delivering customized products while cooperating with customers from the first graphic designs to the final steps of production.



DESIGN

1



**MATERIAL
TAKE-OFFS**

2



PRODUCTION

3



**LABORATORY
CONTROL**

4



INSTALLATION

5



PIPE MARKERS AND TAPES

Comparasion



A-SPE tapes and markers are available in three main versions designed for particular environemts and conditions of use:

AS-10 Vinyl Tapes and Markers

Dedicated for indoor and outdoor use in areas with limited exposure to direct sunlight and difficult weather conditions. It offers fair durability, good flexibility and limited temperature resistance. Equipped with pressure sensitive acrylic adhesive and protective release liner. Recommended for newly installed pipes. It is the most economical solution for pipeline identification.



AS-11 High-Temperature Tapes and Markers

High temperature resistant tapes and markers recommended for indoor and outdoor applications. Suitable for use in harsh weather conditions and exposure to sunlight. Suitable for applications in marine and offshore environments. Equipped with pressure sensitive acrylic adhesive and protective release liner. Requires limited surface preparation.

AS-12 Dura Markers

High performance material with excellent resistance to indoor and outdoor conditions. Recommended in environments which are highly exposed to sunlight, difficult weather conditions and chemicals. Suitable for application in marine and offshore environments, as well as for the food processing industry. Does not require surface preparation and can be reused after removing.



Technical details	AS-10	AS-11	AS-12
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
Resue after removing	No	No	Yes
Service lifetime*	3-8 years	5-10 years	5-10 years

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

AS-10 VINYL TAPES & MARKERS

An economical solution for indoor and outdoor installations

Dedicated for indoor and outdoor use in areas with limited exposure to direct sunlight and difficult weather conditions. It offers fair durability, good flexibility and limited temperature resistance. Equipped with pressure sensitive acrylic adhesive and protective release liner. Recommended for newly installed pipes. It is the most economical solution for pipeline identification.

Service temperature: -40°C to +80°C

Service lifetime: 3-8 years *

Features

- fair resistance to weather conditions and UV rays
- economical and easy to use
- no minimum quantity
- customised production with any texts and graphics
- high quality acrylic adhesive

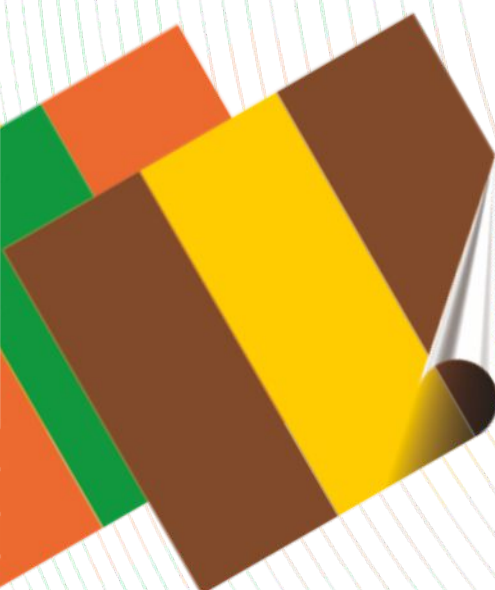
Availability



rolls



markers



Technical details

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
Resue after removing	No
Service lifetime*	3-8 years

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

AS-11 HIGH-TEMPERATURE TAPES & MARKERS

High temperature resistance and excellent durability

High temperature resistant tapes and markers recommended for indoor and outdoor applications. Suitable for use in harsh weather conditions and exposure to sunlight. Suitable for applications in marine and offshore environments. Equipped with pressure sensitive acrylic adhesive and protective release liner. Requires limited surface preparation.

Service temperature: -40°C to +130°C

Service lifetime: 5-10 years *

Features

- high temperature resistance up to 130°C
- excellent resistance to harsh weather conditions and UV rays
- good chemical resistance
- no minimum quantity
- customised production with any texts and graphics
- high quality acrylic adhesive

Availability



rolls



markers



Technical details

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
Resue after removing	No
Service lifetime*	5-10 years

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

AS-12 DURA MARKERS

Highest durability and easy installation

High performance material with excellent resistance in indoor and outdoor conditions. Recommended in environments which are highly exposed to sunlight, difficult weather conditions and chemicals. Suitable for applications in marine and offshore environments, as well as for the food processing, chemical and pharmaceutical industries. Does not require surface preparation and can be reused after removing.

Service temperature: -40°C to +130°C

Service lifetime: 5-10 years *

Features

- excellent durability and long service life
- precoiled for easier installation
- no surface preparation required
- can be reused
- no minimum quantity
- customised production with any texts and graphics

Availability



precoiled markers



Technical details

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
Resue after removing	Yes
Service lifetime*	5-10 years

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

Colour coding according 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.

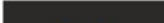



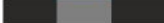





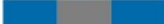

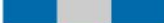









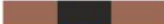
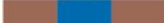



MAIN COLOURS AND MEDIA

acc. to ISO 14726:2008

Type	Description	Ordering code	ISSA ref. no.
Black	Waste media	SC40	47.521.40
Blue	Fresh water	SC41	47.521.45
Brown	Fuel	SC42	47.521.42
Green	Sea Water	SC43	47.521.44
Grey	Non-flammable Gases	SC44	47.521.47
Maroon/Copper	Masses	SC45	47.521.43
Orange	Oil other than fuel	SC46	47.521.41
Silver	Steam	SC47	47.521.49
Red	Fire fighting	SC48	47.521.48
Violet	Acids & Alkalis	SC49	47.521.46
White	Air in ventilation systems	SC50	47.521.51
Yellow-ochre	Flammable gases	SC51	47.521.50
	Flow direction marking	SC30	47.521.30

MULTI-COLOUR VARIATIONS FOR DIFFERENT MEDIA OR FUNCTIONS













acc. to ISO 14726:2008

Description	Colour identification	Ordering code	
		Multi-colour	Single-colour
Waste media		SC40	SC40
Black water		MC40-41	SC40+SC41+SC40
Waste oil / Used oil		MC40-42	SC40+SC42+SC40
Bilge water		MC40-43	SC40+SC43+SC40
Exhaust gas		MC40-44	SC40+SC44+SC40
Grey water		MC40-50	SC40+SC50+SC40
Sewage - contaminated		MC40-51	SC40+SC51+SC40
Fresh water		SC41	SC41
Fresh water, sanitary		MC41-42	SC41+SC42+SC41
Potable water		MC41-43	SC41+SC43+SC41
Distillate		MC41-44	SC41+SC44+SC41
Gas turbine wash water		MC41-46	SC41+SC46+SC41
Feed water		MC41-47	SC41+SC47+SC41
Cooling fresh water		MC41-49	SC41+SC49+SC41
Chilled water		MC41-50	SC41+SC50+SC41
Condensate		MC41-51	SC41+SC51+SC41
Sea water		SC43	SC43
Decontamination water		MC43-41	SC43+SC41+SC43
Sanitary sea water		MC43-42	SC43+SC42+SC43
Ballast water		MC43-49	SC43+SC49+SC43
Cooling sea water		MC43-51	SC43+SC51+SC43
Fuel		SC42	SC42
HFO (Heavy fuel oil)		MC42-40	SC42+SC40+SC42
Aviation fuel		MC42-41	SC42+SC41+SC42
Biological fuel		MC42-49	SC42+SC49+SC42
Gas-turbine fuel		MC42-50	SC42+SC50+SC42
MDO (Marine diesel fuel)		MC42-51	SC42+SC51+SC42

MULTI-COLOUR VARIATIONS

acc. to ISO 14726:2008

continuation

Description	Colour identification	Ordering code	
		Multi-colour	Single-colour
Non-Flammable gases		SC44	SC44
Oxygen		MC44-41	SC44+SC41+SC44
Inert gas		MC44-42	SC44+SC42+SC44
Nitrogen		MC44-43	SC44+SC43+SC44
Refrigerant		MC44-45	SC44+SC45+SC44
Compressed air LP		MC44-46	SC44+SC46+SC44
Compressed air HP		MC44-48	SC44+SC48+SC44
Control air / Regulating air		MC44-49	SC44+SC49+SC44
Breathing air*		MC44-50	SC44+SC50+SC44
Breathing gas*		MC44-51	SC44+SC51+SC44
Masses		SC45	SC45
Oil other than fuel		SC46	SC46
Thermal fluid		MC46-41	SC46+SC41+SC46
Lubrication oil for gas turbines		MC46-43	SC46+SC43+SC46
Hydraulic fluid		MC46-44	SC46+SC44+SC46
Lubrication oil for steam turbines		MC46-47	SC46+SC47+SC46
Lubrication oil for gears		MC46-49	SC46+SC49+SC46
Lub. Oil for int. combustion engines		MC46-51	SC46+SC51+SC46
Steam		SC47	SC47
Steam for heating purposes		MC47-40	SC47+SC40+SC47
Exhaust steam		MC47-50	SC47+SC50+SC47
Supply steam		MC47-51	SC47+SC51+SC47
Acids & Alkalis		SC49	SC49
Air in ventilation systems		SC50	SC50
Discharge air		MC50-40	SC50+SC40+SC50
Mechanical supply air - cold		MC50-41	SC50+SC41+SC50
Mechanical supply air		MC50-42	SC50+SC42+SC50
Atmospheric air		MC50-43	SC50+SC43+SC50
Mechanical exhaust air		MC50-44	SC50+SC44+SC50
Decontaminated supply air		MC50-45	SC50+SC45+SC50
Mechanical recirculated air		MC50-46	SC50+SC46+SC50
Mechanical supply air - warm		MC50-47	SC50+SC47+SC50
Smoke clearance		MC50-48	SC50+SC48+SC50
Conditioned supply air		MC50-49	SC50+SC49+SC50
Natural supply air		MC50-51	SC50+SC51+SC50
Fire fighting / Fire protection		SC48	SC48
Fire-fighting water		MC48-43	SC48+SC43+SC48
Fire-fighting gas		MC48-44	SC48+SC44+SC48
Sprinkler water		MC48-46	SC48+SC46+SC48
Spray water		MC48-49	SC48+SC49+SC48
Fire-fighting powder		MC48-50	SC48+SC50+SC48
Fire-fighting foam		MC48-51	SC48+SC51+SC48
Flammable gases		SC51	SC51
Hydrogen		SC51-41	SC51+SC41+SC51
Acetylene		SC51-44	SC51+SC44+SC51
Liquid gas		SC51-49	SC51+SC49+SC51

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

Design and dimensions

A-SPE Pipemarking Tapes and Markers can be produced in accordance to particular requirements of our customers. According to the request they can be designed to comply with one of the following regulations:

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

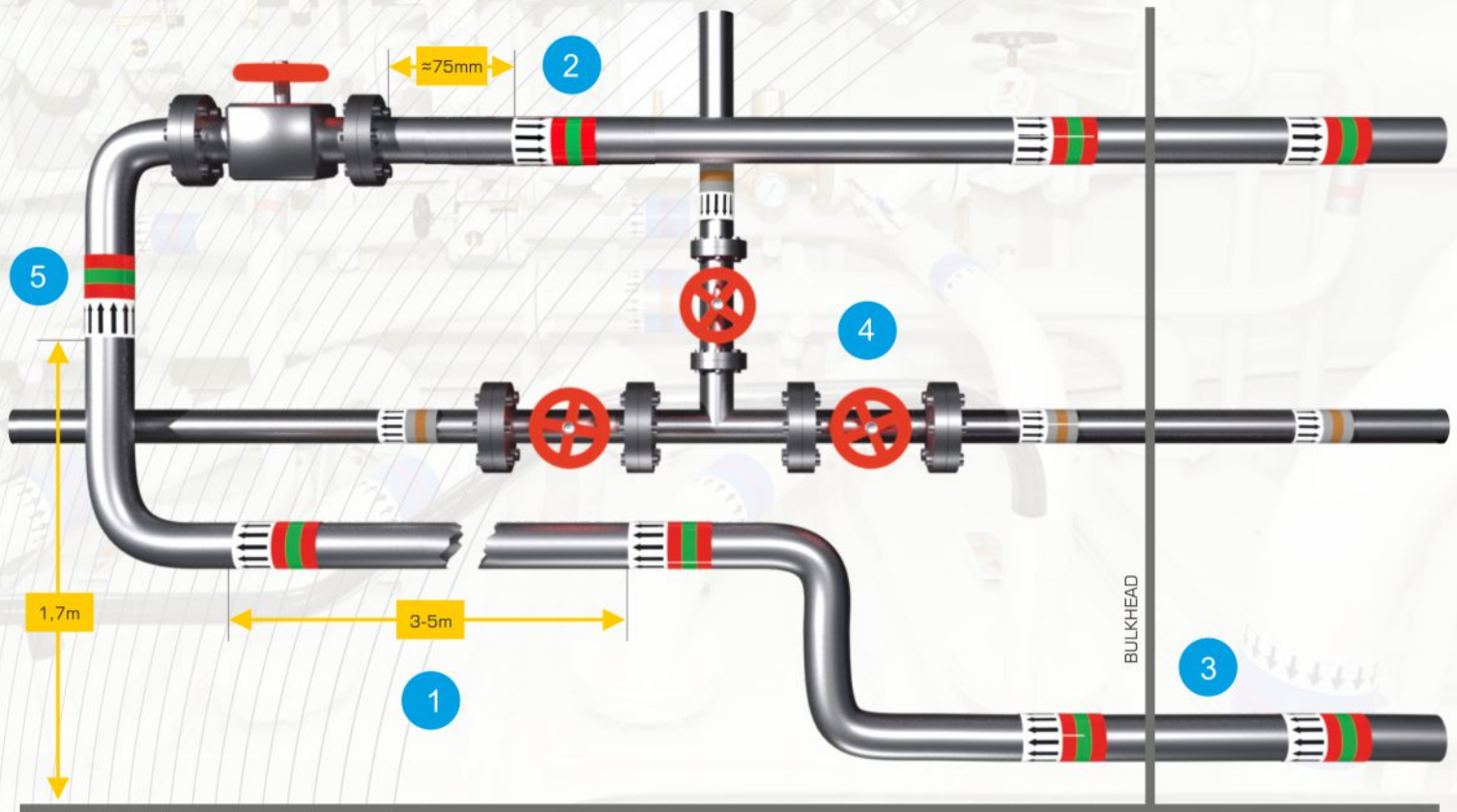


A-SPE Tapes and Markers can be printed in any language based on the translation provided by the customer.

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

DN - Nominal Pipe Diameter	Pipe Diameter (inch)	Length of the marker (mm) *	Letter height (mm)	Arrow height (mm)
DN15	1/2"	100	6,5	16
DN20	3/4"	115	13	16
DN25	1"	135	13	16
DN32	1 1/4"	165	19	19
DN40	1 1/2"	190	19	19
DN50	2"	230	19	19
DN65	2 1/2"	270	32	32
DN80	3"	320	32	32
DN100	4"	395	32	32
DN150	6"	530	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"	2800	32	32

* The suggested lengths of the markers does not consider additional insulation nor other coatings.



IMPORTANT: During application the tape should overlap 2-3 cm.

According to the ISO 14726:2008 regulation the following points should be observed during the installation of pipe markers:

1. The markers should be installed within a 3-5 meter distance between each marking point on a horizontal and straight pipeline. Given conditions may require a more frequent marking due to the branching of pipes or the close proximity of pipes carrying different media.
2. In the case of valves the markers should be installed at a distance of approximately 75mm from the corresponding flange.
3. The markers should be used at all points where a pipe penetrates the wall, bulkhead or deck.
4. In areas where a branching in the pipeline occurs the markers should be installed on each side of the branching.
5. In case of a vertical piping system the markers should be applied at a height of approximately 170cm to ensure good visibility.

The exact estimation of the amount of markers and installation points required is determined during the material preparation stage. A-SPE specialists can offer you professional consulting on the basis of provided pipeline schemata and detailed specifications.

