

PROTECTING VALUE WITH QUALITY

# Polyform

Polyform AS was established in 1955 and became the first company in the world to produce inflatable, all-plastic net buoys and fenders.

Being located in Aalesund, the North Western coast of Norway, gives us the possibility to test our products in challenging weather conditions. It has also proven beneficial to be close to one of the world's most innovative maritime environments.

Polyform is the leading manufacturer in the field. From the rough North Atlantic waters to the sunny tropics, surface to subsea, our products are made to withstand the toughest conditions and strains. Through a wellestablished net of distributors, the products are sold all over the world under the trademark POLYFORM®.

We offer one of the largest range of buoys and fenders available for a large variety of uses. The products in this catalogue represents only a selection of our total range. Most of our products can be customized, and we can even offer to develop new products in cooperation with our customers.



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# Buoys, Fenders and Floats since 1955









# leisure

Polyform can offer the widest range of inflatable buoys, fenders, mooring and dock ending products that can be supplied in a wide variety of different sizes and colours, suitable for all leisure crafts, marinas and fishing.

# F-series

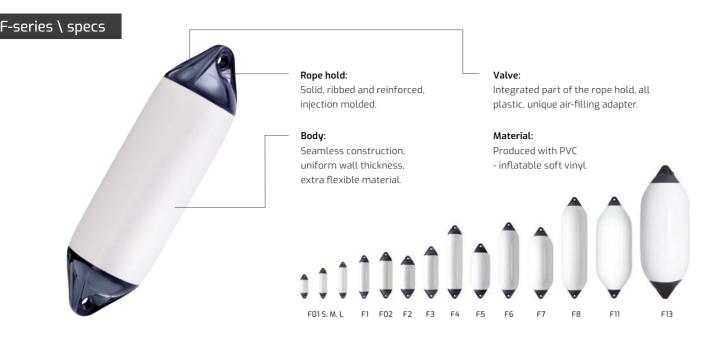
Heavy duty fenders

F-series cylindrical fenders have set the standard for heavy duty fenders for close to 60 years. The newest generation are made by use of Polyform's unique, in-house developed and patented POLYMATIQ® technology.

Highest breaking strength is taken care of by the two multiple rib-reinforced rock solid rope holds. Tested for strength and flexibility in temperatures ranging from  $-30^\circ\text{C}$  to  $+60^\circ\text{C}$ , the most heavy duty fenders feature high abrasive resistance and high energy absorption (up to 3.8 ton meter for F-13), making them suitable for ships up to 1500 ton d/w (F-13) .

The F-series cylindrical fenders are an absolute must for the recreational crafts and yachts. In addition they are also widely used by coast guard and navy vessels, pilot boats and commercial ships.





Article	Volume	Weight	Length	Diameter	Eye diameter
F01S	2.8	0.6	37.0	13.0	1.8
F01M	4.0	0.7	46.5	13.0	1.8
F01L	5.3	0.8	56.0	13.0	1.8
F1	8.0	1.0	61.0	15.0	2.2
F02	15.0	1.7	66.0	20.0	2.5
F2	16.0	1.8	61.0	22.0	2.8
F3	22.0	2.1	74.5	22.0	2.8
F4	35.0	2.9	104.0	22.0	2.8
F5	35.0	3.0	77.5	29.0	2.8
F6	60.0	4.2	109.0	29.0	2.8
F7	85.0	5.3	102.0	37.5	2.8
F8	135.0	7.6	144.0	37.5	2.8
F11	275.0	10.5	145.5	59.0	2.8
F13	700.0	23.0	188.0	75.0	4.0

#### Volume in liter / Weight in kg / Size in cm

Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### **POLYMATIQ®**

POLYFORM® F-series fenders are made by our unique, in-house developed and patented POLYMATIQ® technology that ensures supreme control over the fusion process and warrants for the most consistent quality available anywhere for such molded, soft Vinyl fenders.

#### Rope hold

People associate Polyform's inflatable buoys and fenders with the easily recognizable blue, rib-reinforced rope holds of the F-series. These are high pressure injection molded, solid right trough with reinforcing ribs.

#### Inflation valves

The Polyform inflatable soft vinyl buoys and fenders have inflation valves that is an integrated part of the rope hold through friction welding – there is no glue used.

The F-series fenders from size F01 to F11 are fitted with the V-10 valve. The F13 fenders are fitted with the larger V-40 valve. The F11 (and optional F8) is fitted with the Polyform® double valve system for more easily deflation.

#### Fender- and inflation guide

To choose the correct fender size for your boat, please refer to the Fender guide on page 68. Inflation instructions is stated on page 69.

Colours	Rope hold	Body
Standard:	•	$\circ$ •
On request:	$\circ \bullet \bullet$	• •

## A-series

All purpose buoys and fenders

In late 1955, the world's very first inflatable, all-plastic buoy was produced in Aalesund, Norway. This was the first buoy in a series of buoys that was to become the POLYFORM® A-series.

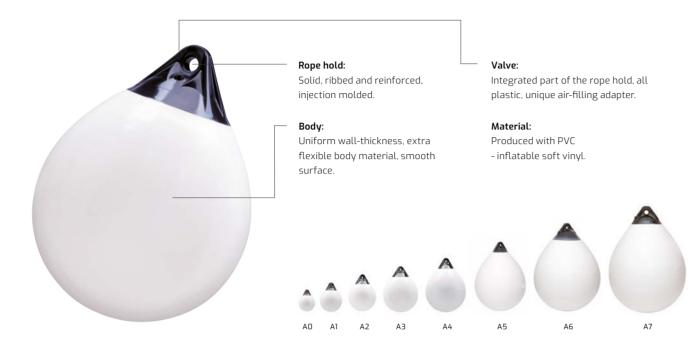
The buoys soon were to be found in most corners of the world, and they established the standard for buoy design and quality.

Since 1955, thanks to our innovative staff of engineers and technicians, design and production technology has been further developed and improved. But still, the tough rib-reinforced rope hold and the seamless construction of Polyform buoys and fenders are part of the reasons why professional users all over the world prefer the POLYFORM® A-series buoys – and why these buoys have become synonymous with «the best buoy money can buy».

POLYFORM® A-series are produced in eight different sizes. Each model is designed and molded in order to offer a maximum of strength. These spherical fenders are typically used for protecting the stern of the boats.



#### A-series \ specs



Article	Volume and Buoyancy*	Weight	Length	Diameter	Eye diameter
AO	5.7/3.4	0.6	28.0	21.0	1,8
A1	13.0 / 7.8	1.2	38.0	29.5	2.2
A2	32.0/19.2	2.1	50.0	39.0	2.5
A3	52.0/31.2	3.1	57.5	46.0	2.8
A4	90.0/54.0	4.1	71.0	55.0	2.8
A5	215.0 / 129.0	8.3	94.0	71.0	2.8
A6	405.0/243.0	11.3	112.0	85.0	3.5
A7	670.0 / 402.0	21.0	142.0	110.0	6.0

#### Weight in kg / Size in cm

#### Rope hold

People associate Polyform's inflatable buoys and fenders with the easily recognizable blue, rib reinforced rope holds of the A-series. These are high pressure injection molded, solid right trough with reinforcing ribs.

#### Inflation valves

The Polyform inflatable soft vinyl buoys and fenders have inflation valves that is an integrated part of the rope hold through friction welding – there is no glue used. The valve is all plastic with no metal components, and thus no corrosion-problems will occur. It is fitted with a half a turn screw and integrated non-return flap, along with Polyforms unique air-filling adapter.

The A-series buoys from size AO to A5 are fitted with the V-10 valve. The A6 and A7 buoys are fitted with the larger V-40 valve. The A7 has the Polyform® double valve system for more easily deflation.

#### Fender- and inflation guide

To choose the correct fender size for your boat, please refer to the Fender guide on page 68.
Inflation instructions is stated on page 69.

Colours	Rope hold	Body
Standard:	•	$\circ \bullet \bullet \bullet$
On request:	$\circ \bullet \bullet$	$\bullet$ $\bullet$ $\bullet$ $\bullet$

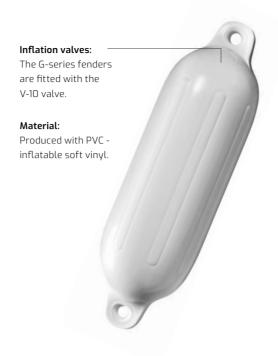
<sup>\*</sup> Gross Buoyancy / Recommended maximum load. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

# G-series

Blow molded utility fenders

The POLYFORM® G-fenders are blow molded from marine-grade vinyl material.

Intended to be used for typically light-weight utility fenders – but still designed with reinforcing ribs along the length of the fender body – to assure added strength and abrasion resistance. The G-fenders are suitable for smaller and medium size pleasure crafts.



Article	Weight	Length	Diameter	Eye diameter
G2	0.5	40.7	11.7	1.3
G3	0.8	51.5	14.5	1.6
G4	1.1	58.5	17.0	2.0
G5	1.5	70.5	21.5	2.2

#### Weight in kg / Size in cm

Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Fender- and inflation guide

To choose correct fender size for your boat, please refer to the Fender guide on page 68. Inflation instructions is stated on page 69.





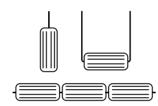
# **RFC-series**

Center tube fender

The POLYFORM® RFC-fenders are heavy duty, ribbed fenders with center tube. They can be used horizontally or vertically for maximum protection.

Strong one piece construction moulded from tough, flexible vinyl. Available in two sizes. Designed with reinforcing ribs along the length of the fender body – to assure added strength and abrasion resistance. The RFC-fenders are suitable for smaller and medium size pleasure crafts.

By use of a single fender line, one or several RFC-fenders can be used both vertical and horizontal.



# Inflation valves: The RFC-series fenders are fitted with the V-10 valve. Material: Produced with PVC inflatable soft vinyl.

Article	Weight	Length	Diameter	Tube diameter
RFC2	1.7	50.0	21.0	1.6
RFC3	2.7	66.0	25.0	1.6

#### Weight in kg / Size in cm

Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Fender- and inflation guide

To choose correct fender size for your boat, please refer to the Fender guide on page 68. Inflation instructions is stated on page 69.



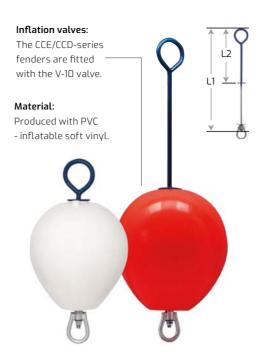


# CCE/CCD-series

Inflatable mooring buoys

The POLYFORM® inflatable mooring buoys are produced with either a short mooring rod (CCE-type mooring buoy) or a long mooring rod (CCD-type mooring buoy).

The mooring buoys are fully assembled by the factory and only need correct inflation before use. The rods include a swivel at the lower end and all parts are hot dipped galvanized.



Article	Buoyancy*	L1	L2	Diameter	Rod diameter
CCE2	28.0/16.5	64.0	15.0	38.5	1.6
CCE3	53.0/31.5	74.0	15.0	45	1.9
CCE4	98.0/58.0	85.5	17.0	54	1.9
CCD2	27.0 / 16.0	106.5	57.5	38.5	1.6
CCD3	52.0/31.0	119.0	60.0	45	1.9
CCD4	97.0 / 57.0	148.5	80.0	54	1.9

#### Size in cm

\* Gross Buoyancy / Recommended maximum load. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Mooring- and inflation guide

For recommended mooring set-up, please refer to Mooring guide on page 68. Inflation instructions is stated on page 69.





# MR/MG-series

Non-inflatable mooring buoys

MR30, MR40 (with short iron rods) and MG40 (with long iron rods) are manufactured from BACELL™, Polyform's special foam material with 100% closed cells.

The material is an in-house composition, consisting of environmentally friendly EVA. The closed- cell structure prevents any water from entering into the material and makes these buoys totally puncture proof. MR- and MG-series mooring buoys are fitted with a hot dipped galvanized mooring rod and swivel.



Article	Buoyancy*	L1	L2	Diameter	Rod diameter
MR30	9.8 / 5.9	38.5	14.0	25.0	1.2
MR40	14.0 / 8.0	60.0	14.0	285	1.2
MG40	13.5 / 7.5	890	43.5	285	1.2

#### Size in cm

#### Mooring guide

For recommended mooring set-up, please refer to Mooring guide on page 68.

#### Standard colours:

MR30 MR40 / MG49





<sup>\*</sup> Gross Buoyancy / Recommended maximum load. Do not overinflate. Allowance +/-5%.

# MB-series

Non-inflatable mooring buoys

The MB-series buoys are mainly used for mooring, marking of fishing gear and cables, pipelines, and different other surface installations.

The MB-series buoys are rotomolded from polyethylene (PE) and filled with polystyrene foam (EPS), guaranteeing a compressive strength of 5 mH2O and a density of 25 kg m<sup>3</sup>. The buoys come complete with hot dip galvanized armature and swivel.



Article	Volume	Buoyancy*	Length	L1	L2	Diameter	Rod diameter
MB40	45	38	43.0	4.8	-	38.0	16
MB100	106	94	59.0	4.8	-	50.0	19
MB250	255	230	92.0	4.8	-	65.0	19
MB40 L	45	37	43.0	-	64.0	38.0	16
MB100 L	106	91	59.0	-	74.0	50.0	19
MB250 L	255	227	92.0	-	85.5	65.0	19

#### Size in cm / Volume in liter / Weight in kg

\* Gross Buoyancy / Recommended maximum load. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Mooring guide

For recommended mooring set-up, please refer to Mooring guide on page 68,





### **APB-series**

Yatch mooring

The APB-series represents a modular series of buoys, designed for surface and sub-surface use.

The buoys are rotomolded from polyethylene (PE) and filled with polystyrene foam (EPS), polyurethane foam (PUR) or other materials depending on the application. The buoys are equipped with hot dip galvanized steel armatures, four full-length hot dip galvanized steel bolts and continuous chain through the center.

The APB-series has light armature option.



Material:

The APB-series is produced with PE - non-inflatable hardshell.

Article	Buoyancy*	Weight	Length	Width
Aqua 500 APB	495	85	72	117×117
Aqua 1000 APB	1015	145	139	117×117

#### Weight in kg / Size in cm

#### Steel armatures

The steel armatures and chain varies depending on use.

#### Standard colours:

# Aqua-series

Yatch mooring

The Aqua-series buoys are rotomolded from polyethylene (PE).

The products are produced with an extra heavy wall-thickness of 8 mm and filled with polystyrene foam (EPS), or polyurethane foam (PUR) depending on the application. The Aqua-series can easily be custom made, specially designed to meet the needs of the customer.



The Aqua-series is

produced with PE - non-inflatable hardshell.

Article	Volume	Buoyancy*	Weight	Length	Diameter
Aqua 250	260	228	32	113	65
Aqua 400	450	400	45	110	77×77

#### Volume in liter / Weight in kg / Size in cm

#### Steel armatures

The steel armatures and chain varies depending on use.

<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

# MF-series

Dock-ending products

The unique qualities of our inhouse developed EVA material makes it ideal for producing shock absorbing dock ending fenders and bumpers.

This foam material that has been used in the professional market for over 30 years, as durable floaters and moorings designed to withhold the harshest marine conditions.

Bacell™ EVA is made of 100% closed cell foam that cannot puncture and is highly shock absorbing. The products are extremely resistant to permanent deformation, UV-light and all weather conditions. Will not deteriorate in the sun, and will not mark your boat.



The MF44 and MF60 can be cut, curved, twisted, formed and shaped without loosing it's unique qualities.



#### MF-series \ specs

The **MF44** dock ending fender is our smallest dock fender list for boat protection. Mounts easily to most docks by use of mounting brackets (included) and four appropriate screws.



**MF60** is a heavy-duty type of dock-ending fender, designed for maximum protection of the bow/stern when mooring and during boarding. Mounts easily to most docks by use of mounting brackets (included) and four appropriate screws.



**MBF150** bumper is the most heavy-duty type of dock-ending bumper, designed for maximum protection of the bow/stern. Mounts easily to most docks by use of mounting brackets (included) and four appropriate screws.



Article	Length	Height	Depth
MF44	94.0	8.5	4.4
MF60	100.0	14.0	6.0
MBF150	65.0	19.5	20.0

Size in cm

#### Bacell

Bacell™ is an in-house developed EVA material that is used in a wide variety of products. Bacell™ is for example used in the Marina Fender Series, the BPB fishing floats and in several custom made products. The 100% closed cell foam materials cannot puncture and will never absorb any water. It is highly shock absorbing, has excellent durability and retains its shape even after high strain and extensive use. In addition it has high buoyancy and it is resistant to UV-light and all weather conditions.

#### Multiprotector

These «Multiprotectors» can be used as protection on the wall in your garage and it will protect the car door when opening. They can be mounted on pillars and walls in different kind of garages and parking areas to avoid damages on vehicles, be used as interior wall protection in vans, and as various shock absorbing paddings in playgrounds. The material's unique properties makes it ideal for all protective and shock absorbing applications.

#### Standard colours:

# **MP-pontoons**

Pontoon for floating marina systems

The pontoon floats are rotomolded from polyethylene (PE) and mainly produced with polystyrene as secondary buoyancy.

The MP-series is suitable both for marina producers and for users that build their own dock or jetty.

In case of damage to the products the solution with polystyrene foam will maintain the buoyancy of the pontoon float until due service is done.

One of the advantages for the marina producers to use standard products is low development cost in the establishment phase.



#### Material:

The MP-pontoons is produced with PE - non-inflatable hardshell.

Article	Volume	Buoyancy*	Weight	Height	Length	Width
MP80	80	70	10	59	70	22
MP200	200	182	18	54	140	25
MP420	420	390	30	55	175	50
MP1100**	1100	1050	50	79	143	98

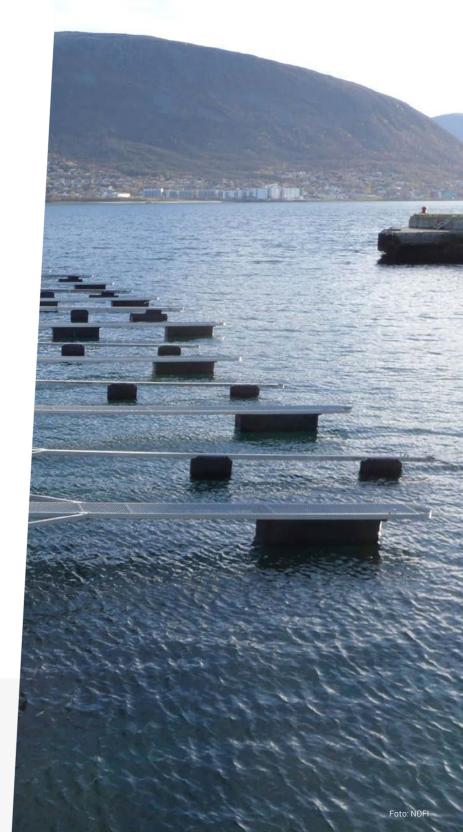
#### Size in cm / Volume in liter / Weight in kg

#### **Custom molding**

We can also offer custom molding of special designed pontoon floats for defined applications.

#### Standard colour:

custom colours avaliable



<sup>\*</sup> Net buoyancy \*\* Not foam filled. Allowance +/-5%.

# Prefered trademark for professionals









# fishery

Polyform's wide product range, from the smallest to the largest buoy, purse seine floats, mooring and fendering, makes them ideal in a wide variety of fisheries.

### A-series All purpose buoys

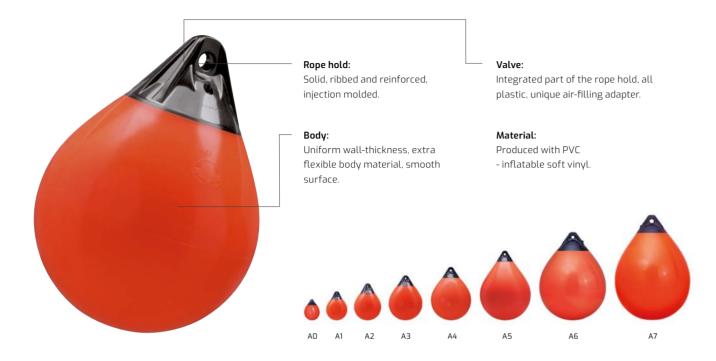
In late 1955, the world's very first inflatable, all-plastic buoy was produced in Aalesund, Norway. This was the first buoy in a series of buoys that was to become the POLYFORM® A-series.

The buoys soon were to be found in most corners of the world, and they established the standard for buoy design and quality.

Since 1955, thanks to our innovative staff of engineers and technicians, design and production technology has been further developed and improved. But still, the tough rib-reinforced rope hold and the seamless construction of Polyform buoys and fenders are part of the reasons why fishermen all over the world prefer the POLYFORM® A-series buoys – and why these buoys have become synonymous with «the best buoy money can buy».



#### A-series \ specs



Article	Buoyancy*	Weight	Height	Diameter	Eye diameter
AO	5.7/3.4	0.60	28.0	21.0	1,8
A1	13.0 / 7.8	1.15	38.0	29.5	2.2
A2	32.0/19.2	2.10	50.0	39.0	2.5
A3	52.0/31.2	3.10	57.5	46.0	2.8
A4	90.0/54.0	4.10	71.0	55.0	2.8
A5	215.0 / 129.0	8.30	94.0	71.0	2.8
A6	405.0/243.0	11.30	112.0	85.0	3.5
A7	670.0 / 402.0	21.00	142.0	110.0	6.0

#### Weight in kg / Size in cm

\* Gross Buoyancy / Recommended maximum load. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Rope hold

People associate Polyform's inflatable buoys and fenders with the easily recognizable blue, rib reinforced rope holds of the A-series. These are high pressure injection molded, solid right trough with reinforcing ribs.

#### Inflation valves

The Polyform inflatable soft vinyl buoys and fenders have inflation valves that is an integrated part of the ropehold through friction welding – there is no glue used. The valve is all plastic with no metal components, and thus no corrosion-problems will occur. It is fitted with a half a turn screw and integrated non-return flap, along with Polyforms unique air-filling adapter.

The A-series buoy from size A0 to A5 are fitted with the V-10 valve. The A6 and A7 buoys are fitted with the larger V-40 valve. The A7 has the Polyform® double valve system for more easily deflation.

#### Maximum strength

POLYFORM® A-series are produced in eight different sizes. Each model is designed and molded in order to offer a maximum of strength. The wide range, from the smallest to the largest buoy, makes them useful for all kinds of fishery and in a wide variety of maritime sectors.

Colours	Rope hold	Body
Standard:	•	0 • • •
On request:	0 • •	

# **HL-series**

High-liner

Cylindrical, bullet-shaped POLYFORM® HL-buoys are specially designed to reduce drag when used under conditions with strong currents.

The HL buoys can considerably reduce the drag when compared to spherical buoys.

The HL buoys is also a popular fender, especially on boats with low freeboard. Designed with the original POLYFORM® blue-top rope hold, the HL-buoys are heavy duty buoys, used by commercial fishermen in inshore and offshore environments.



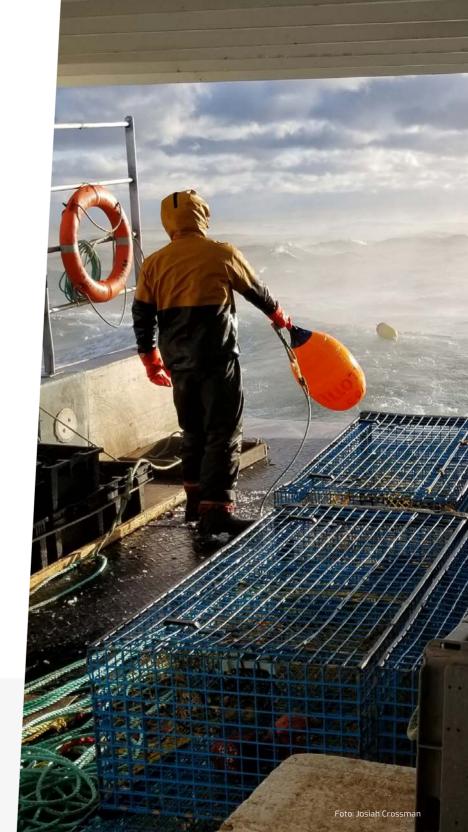
Article	Buoyancy*	Weight	Height	Diameter	Eye diameter
11111	12.0./75	115	<b>470</b>	77.0	2.2
HL1	12.0 / 7.5	1.15	47.0	23.0	2.2
HL2	30.5/18.5	2.1	62.0	30.0	2.2
HL3	51.0/30.5	3.1	74.5	35.0	2.5
HL4	80.0/48.0	5.9	95.0	40.0	28

#### Weight in kg / Size in cm

\* Gross Buoyancy / Recommended maximum load. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

The special oval design and ribs along the body contribute to a lower drag and for the buoy to skip on the surface, instead of being dragged down in high currents, harsh weather and when retrieving the buoy.

Colours	Rope hold	Body
Standard: On request:	•	<ul><li>• • • • • •</li></ul>



# **CC-series**

Multi-purpose buoys

Commonly known as «Dhan-buoys» or «High-fliers».

These buoys are fitted with a central, flexible tube for mounting of for example a pole. The CC-series Multipurpose buoys are of seamless molded construction and are widely used for various marking applications.



#### Inflation valves:

The CC-series fenders are fitted with the V-10 valve.

#### Material:

Produced with PE - non-inflatable hardshell.

Article	Buoyancy*	Weight	Height	Diameter	Tube diameter
CC2	29.0 / 17.5	2.6	43.0	38.5	4.8
CC3	55.0/33.0	3.9	50.0	45.0	4.8
CC4	100.0/60.0	5.3	59.0	54.0	4.8

#### Weight in kg / Size in cm

High-fliers are vertical poles used by commercial fishermen that serve to locate the beginning and end of a long fishing line, commonly used in tuna, swordfish, as well as other fishing.

#### Standard colours:



## Pe3-series

Marker buoys

# Semi hard plastic, non-inflatable marker buoys.

The buoy is used for all kinds off creel and trap fishing, like lobsters and other crustaceans.

The Pe3-series is produced with low-density PE material that makes it very durable.

Does not require inflation. It is a hard shell buoy and ready to use.



The Pe3-series is produced with PE - non-inflatable hardshell.

Article	Buoyancy*	Weight	Height	Diameter	Eye diameter
Pe3	1.6/1.0	0.11	20.8	15.0	1.0

#### Weight in kg / Size in cm

\* Net buoyancy.

The Pe3-series is also commonly used as marker buoys at watersports arenas, for example as arena and lane markers.



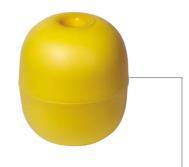
<sup>\*</sup> Net buoyancy.

# **BPB-series**

Purse seine floats

The BPB Bacell™ Purse Seine Floats are light in weight, have very high tensile strength and do not absorb any water.





Material:

The BPB-series is is produced with Bacell™ foam.

Article	Buoyancy*	Weight	Height	Diameter	Hole
BPB3500	3.5	0.5	20.1	17.6	3.2
BPB4600	4.6	0.6	22.5	18.6	3.2
BPB5700	5.7	0.7	22.4	21.2	4.5
BPB6800	6.9	0.9	23.0	22.6	4.5
BPB8000	8.0	1.0	26.4	23.2	4.5
BPB9000	9.0	1.0	27.3	24.0	5.0
BPB9800	9.7	1.2	27.4	24.8	4.5
BPB11000	10.9	1.2	28.5	25.5	5.0
BPB14000	14.0	1.2	31.0	28.5	5.0

Weight in kg / Size in cm

#### High resistance

The outstanding elasticity provides floats that have the highest resistance to shrinkage, permanent deformation and breakage.





<sup>\*</sup> Net buoyancy.

# **NF-series**

Nordic purse seine floats

The NF-series of purse seine floats have superb quality features, optimized to meet the challenging northern pelagic fishery.

The main features of the NF-series are that the float will maintain its buoyancy over long time use in rough northern conditions and it will not crack.

The Nordic float Bacell™ purse seine floats are manufactured from ethylene vinyl acetate (EVA) to their own in-house developed raw material receipt.

The grommets are a part of the products from stage one in the production cycle and thus form an integrated part of the finished products.



#### Material:

The NF-series is produced with Bacell™ foam.

Article	Buoyancy*	Weight	Height	Diameter	Hole
NF7	8.2	1.2	24.2	23.5	3.2
NF10	11.2	1.6	26.5	26.0	3.2

Weight in kg / Size in cm

#### Superior quality

The NF7 and NF10 Nordic Floats are developed for use in harse Nordic waters.



<sup>\*</sup> Net buoyancy.

# F-series

Heavy duty fenders

F-series cylindrical fenders have set the standard for heavy duty fenders for close to 60 years.

The F-series high quality cylindrical fenders are an absolute must for the smaller or larger fishing vessels. In addition they are also widely used by coast guard and navy vessels, pilot boats and commercial ships.

Rope hold:  Solid, ribbed and reinforced, injection molded.	
Valve: Integrated part of the rope hold, all plastic, unique air-filling adapter.	
Material: Produced with PVC - inflatable soft vinyl.	

Article	Volume	Height	Diameter	Eye diameter	Weight
F5	35	77.5	29.0	2.8	3.0
F6	60	109.0	29.0	2.8	4.2
F7	85	102.0	37.5	2.8	5.3
F8*	135	144.0	37.5	2.8	7.6
F11**	275	145.5	59.0	2.8	10.5
F13	700	188.0	75.0	4.0	23.0

#### Volume in liter / Size in cm / Weight in kg

\* F8 optional double valve system on request. \*\* F11 supplied with double valve system as standard. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Inflation valves

The F11 (and optional F8) is fitted with the Polyform® double valve system for more easily deflation. The F13 fenders are fitted with the larger V-40 valve.

Colours	Rope hold	Body
Standard: On request:	•	<ul><li>•</li><li>•</li></ul>



# **HDF-series**

Heavy duty fenders

Strong, durable air-filled fenders for commercial crafts. Produced in one piece with extra reinforced rope holds.

The HDF fenders are rotomolded from a strong, 8 mm thick semi-soft thermo-plastic material. High abrasion resistance and light weight. Resistant to seawater, cleaning agents, common solvents, mineral oil and UV-light. Low weight - easy handling, high energy absorption.

#### Rope hold:

Very high breaking strength, one-piece product.

#### Valve:

Integrated part of the rope hold, all plastic, unique air-filling adapter.

#### Material:

The HDF-series is produced with PE - non-inflatable hardshell.



Article	Volume	Buoyancy*	Weight	Height	Diameter	Eyelet in ropehold	Breaking strength
HDF9	140	129	11	120	50	5	2500
HDF10	210	192	18	160	50	5	2500
HDF11	265	245	20	145	65	5	3500
HDF12	400	370	30	185	65	5	3500
HDF30	1750	1665	85	235	117	6	4500

Volume in liter / Weight in kg / Size in cm

#### Reaction force

The HDF fenders have been thoroughly tested according to heavy duty performance at SINTEF. The tests show exceptionally good energy absorption to reaction force ratio.

#### Standard colour:

custom colours avaliable



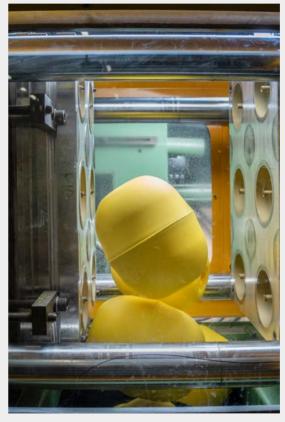
<sup>\*</sup> Net buoyancy.



# Made to withstand the toughest conditions









# aquaculture

Polyform cooperates closely with the aquaculture industry, producing mooring buoys that is suitable for the harshest conditions.

## **APB-series**

Modular mooring and spring buoys

The APB-series represents a modular series of buoys, designed for surface and sub-surface use.

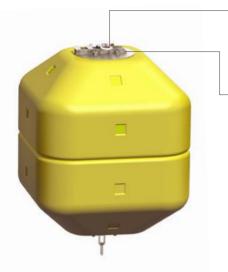
The APB-series represents a modular series of buoys, designed for surface and sub-surface use, rotomolded from polyethylene (PE) and filled with polystyrene foam (EPS), polyurethane foam (PUR) or other materials depending on the application. The buoys are equipped with hot dip galvanized steel armatures, four full-length hot dip galvanized steel bolts and continuous chain through the center. The steel armatures and chain vary from application to application depending on whether it is for aquaculture, offshore, surface, sub-surface or other installations.

#### Configured for fish farming/aquaculture

The standard APB buoys are set up with aqua configuration (armature/chains) are filled with polystyrene foam (EPS), designed for surface use and equipped with yellow, daylight reflective tapes on all four sides. In addition to the continuous chain through the center, the buoys are secured with four full-length hot dip galvanized steel bolts. The buoys are designed to form a modular system and individual sections can therefore be added or, if necessary be removed from the assembly, to adapt to different buoyancy needs. The buoys include an integrated pipe as part of the top disc, allowing for light and different other equipment easily to be mounted



#### APB-series \ specs



#### Armature:

Can be fitted with different steel armatures and chain depending on application.

#### Light:

The APB-series has light armature option.

#### Material:

The APB-series is produced with PE - non-inflatable hardshell.

#### Certified fiber strap alternative

All APB products can be delivered with an fiber strap option, alternatively to the standard steel armature/chain.

This option is certified as a lifting appliance.



Article	Buoyancy*	Weight	Height	Width
APB 500	495	85	75	117×117
ABP 1000**	1015	145	139	117×117
ABP 1500**	1520	140	165	117 × 117
ABP 1500	1500	255	109	180×180
ABP 2200	2200	280	145	180×180
ABP 3000	3000	400	194	180×180
ABP 4400	4400	590	245	180×180
ABP 6600	6400	890	335	180×180

#### Weight in kg / Size in cm

#### Product certificate

Complies with the requirements for strength and safety according to Marine fish farms NS 94a15 (Norwegian Standard).



#### Other configurations

The APB-series can easily be custom made, specially designed to meet the needs of the customer. They can be equipped with different steel armatures, different dimensions of continuous chain through the center, and different materials adapted to the use either on the surface or submerged to various depths.

Polyform has an experienced research and development department and can in cooperation with the customer come up with the desired solutions.

#### Light armature option

All products in the APB-series has a light armature option avaliable.

#### Colours

Standard:



<sup>\*</sup> Net buoyancy. Other sizes on request. \*\* Freight optimized. APB 8000 and above is avaliable on request.

## **APBXL-series**

Modular mooring and spring buoys

The APBXL-series represents a modular series of buoys, designed for surface and sub-surface use.

The buoys are rotomolded from polyethylene (PE) and filled with polystyrene foam (EPS), polyurethane foam (PUR) or other materials depending on the application. The buoys are equipped with hot dip galvanized steel armatures, four full-length hot dip galvanized steel bolts and continuous chain through the center. The steel armatures and chain vary from application to application depending on whether it is for aquaculture, offshore, surface, sub-surface or other installations.







APBXL 6000

APBXL 8000

APBXL 10000



#### Material:

The APBXL-series is produced with PE - non-inflatable hardshell.

Article	Buoyancy*	Weight	Height	Width
APBXL 6000	6000	650	173	233×233
APBXL 8000	7900	1050	235	233×233
APBXL 10000	9900	1330	275	233×233

#### Weight in kg / Size in cm

\* Net buoyancy. Other sizes available on request. Allowance +/-5%.

#### Product certificate

Complies with the requirements for strength and safety according to Marine fish farms NS 9415 (Norwegian Standard).

#### Standard colours:





# APB Light-series For fish farming/aquaculture

The Aqua APB Light-series is designed for use in sheltered waters.

The APB Light-series is rotomolded from polyethylene (PE) and filled with polystyrene foam (EPS), designed for surface use and equipped with yellow daylight reflective tapes on all four sides. In addition to the continuous chain trough the center, the buoys are secured with four full-length hot dip galvanized steelbolts.









APB light 2200 APB light 3000



#### Material:

The APB Light-series is produced with PE - non-inflatable hardshell.

#### Light:

The APB light-series has light armature option.

Article	Buoyancy*	Weight	Height	Width
APB light 2200	2325	240	145	180×180
APB light 3000	3110	375	194	180×180
APB light 4400	4615	510	245	180×180
APB light 6600	6815	720	335	180×180

#### Weight in kg / Size in cm

#### Product certificate

Complies with the requirements for strength and safety according to Marine fish farms NS 9415 (Norwegian Standard).

#### Standard colours:





<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

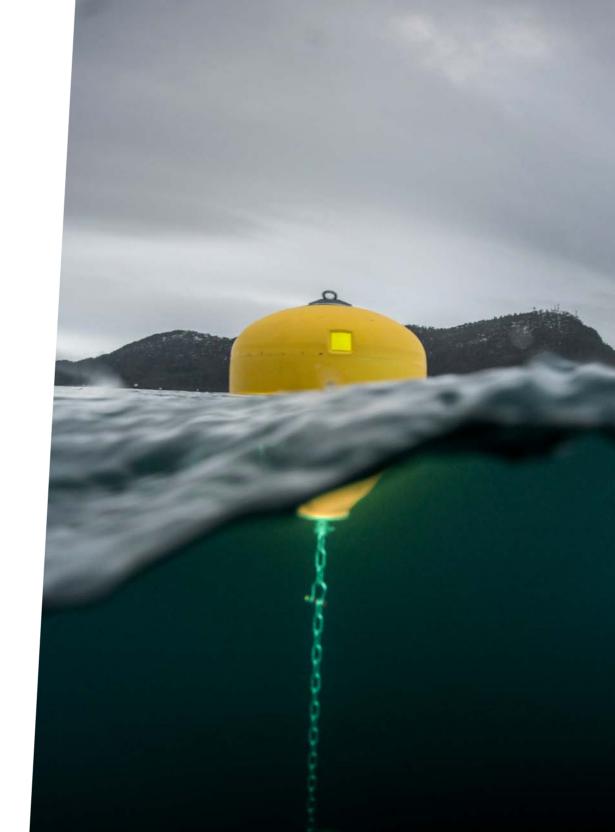
# Aqua-series Mooring and spring buoys

The Aqua-series buoys are rotomolded from polyethylene (PE) with an extra heavy wall-thickness of 8 mm and filled with polystyrene foam (EPS), or polyurethane foam (PUR) depending on the application.

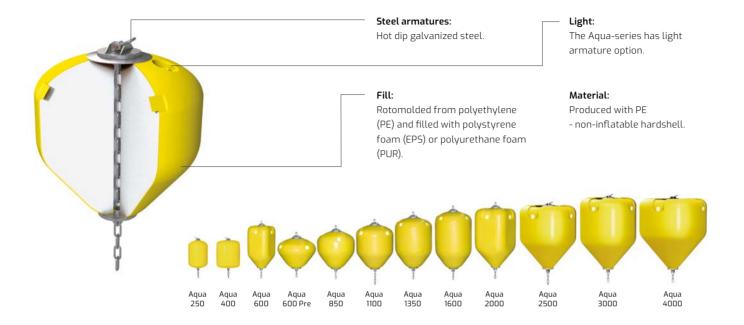
The hot dip galvanized steel armatures and chain varies from application to application depending if it is for aquaculture, offshore, surface, sub-surface or other installations.

#### Configured for fish farming/aquaculture

The Aqua-series buoys are made from a rotomolded PE outer shell and filled with polystyrene (EPS) foam, guaranteeing a compressive strength of 5 mH20 and a density of 25 kg m³. The continuous high quality chain is terminated at either end of the buoy by use of terminating discs that are designed to prevent damage to the buoy. The chain is easily attached by shackle to the anchor line. All wear parts are standard components and can easily be replaced. Aqua-series buoys are designed for surface use and they are equipped with four yellow, daylight reflective tapes for better visibility. Armature and also a radar reflector can be supplied on demand and can also be mounted afterwards.



#### Aqua-series \ specs



Article	Volume	Buoyancy*	Weight	Height	Diameter / width
Aqua 250	260	228	32	124	65
Aqua 400	450	400	45	110	77×77
Aqua 600	620	560	55	165	77×77
Aqua 600 Pre	620	560	60	127	120
Aqua 850	873	800	73	143	120
Aqua 1100	1130	1035	95	165	120
Aqua 1350	1380	1262	118	197	120
Aqua 1600	1640	1510	130	227	120
Aqua 2000	2020	1840	180	228	117 × 117
Aqua 2500	2550	2340	210	201	160
Aqua 3000	3050	2815	235	235	160
Aqua 4000	4075	3790	285	235	194

#### Volume in liter / Weight in kg / Size in cm

#### Product certificate

Complies with the requirements for strength and safety according to Marine fish farms NS 94a15 (Norwegian Standard).



#### Other configurations

The Aqua-series can easily be custom made, specially designed to meet the needs of the customer. They can be equipped with different steel armatures, different dimensions of continuous chain through the center, and different materials adapted to the use either on the surface or submerged to various depths.

Polyform has an experienced research and development department and can in cooperation with the customer come up with the desired solutions.

#### Light armature option

The Aqua-series from the product Aqua 850 and up has a light armature option avaliable.

#### Colours

Standard:



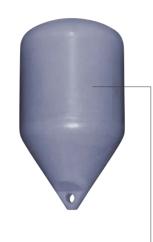
<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

## **SBH-series**

Mussel farm buoys

The SBH buoys are specially developed and designed for mussel farming.

This due to features like the ability to withstand tear and wear and, very importantly, featuring the highest breaking load for the ropehold. Environmentally correct grey coloured, cylindrical in shape and with a sleek surface that makes these buoys also ideal for locations exposed to ice.



Material: The SBH-series is produced with PF - non-inflatable hardshell.

Article	Volume	Buoyancy*	Weight	Height	Diameter	Eyelet in ropehold
SBH120	120	114	6	90.5	50	5
SBH250	250	238	12	118	65	5

Volume in liter / Weight in kg / Size in cm

#### Breaking strength

The SBH-series has a breaking strength at 3500 kg. Allowance +/- 5%.

#### Standard colours:

custom colours avaliable

## LSB-series

Light spring buoys

The LSB buoys are constructed from an outer, rotomolded PE shell that is filled with polystyrene foam (EPS).

The LSB buoys are designed for surface use and special measures have been taken to ensure the product's ability to withstand wear and tear and highest possible breaking load for the rope hold.



Material: The LSB-series is produced with PE - non-inflatable hardshell.

Article	Volume	Buoyancy*	Weight	Height	Diameter	Eyelet in ropehold
LSB120	120	110	10	90.5	50	5
LSB250	250	230	19.5	118	65	5

Volume in liter / Weight in kg / Size in cm

#### Breaking strength

The LSB-series has a breaking strength at 3500 kg. Allowance +/- 5%.

#### Standard colours:

<sup>\*</sup> Net buoyancy. Allowance +/-5%.

<sup>\*</sup> Net buoyancy.

## **HDF-series**

Heavy duty fenders

Strong, durable air-filled fenders for commercial crafts. Produced in one piece with extra reinforced rope holds.

The HDF fenders are rotomolded from a strong, 8 mm thick semi-soft thermo-plastic material. High abrasion resistance and light weight. Resistant to seawater, cleaning agents, common solvents, mineral oil and UV-light. Low weight - easy handling, high energy absorption.

#### Rope hold:

Very high breaking strength, one-piece product.

#### Valve:

Integrated part of the rope hold, all plastic, unique air-filling adapter.

#### Material:

The HDF-series is produced with PE - non-inflatable hardshell.



Article	Volume	Buoyancy*	Weight	Height	Diameter	Eyelet in ropehold	Breaking strength
HDF9	140	129	11	120	50	5	2500
HDF10	210	192	18	160	50	5	2500
HDF11	265	245	20	145	65	5	3500
HDF12	400	370	30	185	65	5	3500
HDF30	1750	1665	85	235	117	6	4500

Volume in liter / Weight in kg / Size in cm

#### Reaction force

The HDF fenders have been thoroughly tested according to heavy duty performance at SINTEF. The tests show exceptionally good energy absorption to reaction force ratio.

#### Standard colour:



<sup>\*</sup> Net buoyancy.

## **BPB-series**

Purse Seine Floats

The BPB Bacell™ are manufactured from ethylene vinyl acetate (EVA) to our in-house developed raw material recipe.





Article	Buoyancy*	Weight	Height	Diameter	Hole
BPB3500	3.5	0.5	20.1	17.6	3.2
BPB4600	4.6	0.6	22.5	18.6	3.2
BPB5700	5.7	0.7	22.4	21.2	4.5
BPB6800	6.9	0.9	23.0	22.6	4.5
BPB8000	8.0	1.0	26.4	23.2	4.5
BPB9000	9.0	1.0	27.3	24.0	5.0
BPB9800	9.7	1.2	27.4	24.8	4.5
BPB11000	10.9	1.2	28.5	25.5	5.0
BPB14000	14.0	1.2	31.0	28.5	5.0

Weight in kg / Size in cm

#### High resistance

The outstanding elasticity provides floats that have the highest resistance to deformation and breakage, low weight and high buoyancy.

#### Standard colours:

custom colours avaliable

## **NF-series**

Nordic purse seine floats

The NF-series of purse seine floats have superb quality features, optimized to meet the challenging northern pelagic fishery.

The main features of the NF-series are that the float will maintain its buoyancy over long time use in rough northern conditions and it will not crack. The Nordic float Bacell™ purse seine floats are manufactured from ethylene vinyl acetate (EVA) to their own in-house developed raw material receipt.

The grommets are a part of the products from stage one in the production cycle and thus form an integrated part of the finished products.



The NF-series is produced with Bacell<sup>™</sup> foam.

Article	Buoyancy*	Weight	Height	Diameter	Hole
NF7	8	1.2	24.2	23.5	3.2
NF10	11	1.6	26.5	26.0	3.2

Weight in kg / Size in cm

#### Superior quality

The NF7 and NF10 Nordic Floats are developed for use in harse Nordic waters.

#### Standard colours:

<sup>\*</sup> Net buoyancy.

<sup>\*</sup> Net buoyancy.

## FlowSafe

Hose flotation device

FlowSafe hose flotation devices are used in various fields of marine activities, such as offshore oil- and gas industry and port facilities.

FlowSafe flotation devices are formed like a wrapping that can be opened along a lengthwise split. This makes FlowSafe easy to mount around the hose. FlowSafe can be held in place by adequate fastening devices, such as metal or plastic strips which fit into the grooves around the outer perimeter of the flotation device.



## Inner surface Star shaped on Type 3. Smooth on Type 4, Type 5 and Type 5L.

#### Material:

The FlowSafe-series is produced with Bacell<sup>™</sup> foam.

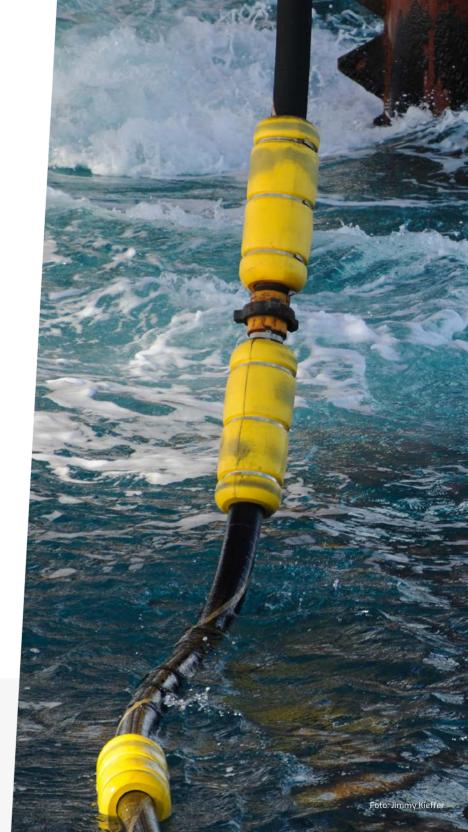
Article	Buoyancy*	Weight	Height	Diameter	Centre diameter
3	17	2.24	60	23.5	10.0
4	17	2.07	60	24.0	12.0
5	15	2.07	60	25.0	14.5
5L	20	2.07	69	28.0	14.5

#### Weight in kg / Size in cm

#### Consequences from a broken hose

With FlowSafe hose flotation device fitted around the transfer hose these problems may to a large degree be avoided. The hose will float in plain sight, making discharging much simpler and safer.

#### Standard colour:



<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

## Freight-optimized-series

This collection of buoys have measurements that are optimized for container and truck transport, and are good alternatives especially where shipping is expensive and you can get as many buoys as possible to distribute freight cost on. Besides economy, this efficient freight handling can reduce the need for sending trucks and containers with available capacity, and of course also will lower total freight emissions and thus benefit the environment.



Article	Volume	Buoyancy*	Weight	Height	Width	Light armature option
Aqua 400	450	400	45	110	77×77	no
Aqua 600	620	560	67	165	77×77	no
APB 1000 FO	1130	1015	145	139	117 × 117	yes
APB 1500 FO	1660	1520	140	165	117 x 117	yes
Aqua 2000	2020	1840	180	228	117×117	yes
APB XL 6000	6650	6000	650	173	233×233	yes
APB XL 8000	8950	7900	1050	235	233×233	yes
APB XL 10000	11200	9900	1330	275	233×233	yes

Volume in liter / Weight in kg / Size in cm

<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

# Protecting value with quality









# offshore & subsea

Polyform works closely with clients in several industries; maritime, ports, offshore and subsea oil and gas, and offers heavy duty mooring and marking buoys, hose flotation and subsea mooring.

## FlowSafe

Hose flotation device

FlowSafe hose flotation devices are used in various fields of marine activities, such as offshore oil- and gas industry and port facilities.

Transfer of fluid at sea is often associated with serious problems – especially in severe weather. During discharge, the hose sinks as it fills with water, slurry, or whatever is being pumped through the hose. Even slight movement of the vessel can cause the hose to come in contact with the propeller.

FlowSafe flotation devices are formed like a wrapping that can be opened along a lengthwise split. This makes FlowSafe easy to mount around the hose. FlowSafe can be held in place by adequate fastening devices, such as metal or plastic strips which fit into the grooves around the outer perimeter of the flotation device. Being recessed inside the grooves, the securing strips are largely protected from being damaged.



#### FlowSafe \ specs



#### Produced from environmentally friendly Bacell™ material

FlowSafe hose flotation devices are manufactured from BACELL™ - an ethylene vinyl acetate (EVA) material made according to our in-house developed raw material recipe. BACELL™ is a highly shock absorbent, strong and elastic material with 100% watertight cells.

100% closed cell material. Highly shock absorbent. Low density, high buoyancy. Coloured right through.

Recessed groove. Smooth, dirt-repellent surface. Strong and elastic.

#### Inner surface

Star shaped on Type 3. Smooth on Type 4, Type 5 and Type 5L.

Buoyancy*	Weight	Height	Diameter	Centre diameter
17	2.24	60	23.5	10.0
17	2.07	60	24.0	12.0
15	2.07	60	25.0	14.5
20	2.07	69	28.0	14.5
	17 17 15	17 2.24 17 2.07 15 2.07	17 2.24 60 17 2.07 60 15 2.07 60	17 2.24 60 23.5 17 2.07 60 24.0 15 2.07 60 25.0

#### Weight in kg / Size in cm

#### FlowSafe Protection

During discharge the hose is exposed to wear and tear. Mount FlowSafe around the hose at the points that receive the greatest wear. This provides effective protection to the hose, thereby adding to its service life and reducing overall cost.

#### Consequences from a broken hose

The consequences arising from a broken hose can be extreme:

- · Contamination due to spillage.
- Destruction of the hose requiring repair or replacement at considerable cost that could have been avoided.
- Damage to the supply ship putting it out of operation. Both, the vessel and the crew may be exposed to danger.

With FlowSafe hose flotation device fitted around the transfer hose these problems may to a large degree be avoided. The hose will float in plain sight, making discharging much simpler and safer.

#### Colours

Standard:



<sup>\*</sup> Net buoyancy. Other sizes on request. Allowance +/-5%.

## Sub FlowSafe

Hose flotation device – down to 500 m

The POLYFORM® Sub FlowSafe is made from a rotomolded PE outer shell and filled with polyure-thane (PUR) foam, guaranteeing a compressive strength of 500 mH20.

The Sub FlowSafe-series are equipped with stainless steel hinge and clamp. All steel parts are placed within the outer diameter of the complete float. A synthetic rubber gasket locks the Sub FlowSafe in position.



Fitted onto a hose with a distance of 25 mm, the internal profile of the Sub FlowSafe still allows winding the hose with clamps mounted to a drum with diameter of 1.8 m.



#### Material:

The Sub FlowSafe-series is produced with PE - non-inflatable hardshell.

Article	Volume	Buoyancy*	Weight	Height	Diameter	Inner diameter
Hose OD37	9.13	3.5	5.5	48	20	3.7
Hose OD80	9.13	3.5	5.5	48	20	7.9 - 8.2
Hose OD95	9.13	3.5	5,5	48	20	9.3-9.6

Volume in liter / Weight in kg / Size in cm

#### Max working depth

The Sub FlowSafe's max working depth is at -500 m.



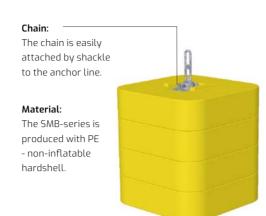


<sup>\*</sup> Net buoyancy at depth -500 m

## **SMB-series**

Sub modular buoyancy system

The continuous high quality chain is terminated at either end of the buoy by use of hot dip galvanized steel terminating discs that are designed to prevent damage to the buoy.



	SMB100 1 module	SMB100 2 modules	SMB100 3 modules	SMB100 4 modules	SMB100 5 modules	SMB100 6 modules
Dimensions	77×77×24	77 x 77 x 44	77×77×64	77 x 77 x 84	77×77×104	77×77×124
Gross volume	110	220	330	440	550	660
Buoyancy* -10 m	92	187	280	370	472	567
Weight	18	33	48	68	78	93
Buoyancy* -30 m	87	175	265	350	442	530
Weight	24	46	66	88	108	130
Buoyancy* -70 m	82	165	250	330	421	505
Weight	28	53	78	108	129	155
Buoyancy* -500 m	46	95	145	195	245	295
Weight	63	124	184	244	305	365
Other depths available by request						

Dimensions in length x width x height / Volume in liter / Weight in kg

#### Modular buoys

These modular buoys are designed for submerged use. Available with up to 9 modules.

#### Standard colours:



<sup>\*</sup> Net buoyancy, listed at depth rating.

## APB/APBXL-series

Modular mooring and spring buoys

The APB-series represents a modular series of buoys, designed for surface and sub-surface use.

The buoys are otomolded from polyethylene (PE) and filled with polystyrene foam (EPS), polyurethane foam (PUR) or other materials depending on the application. The buoys are equipped with hot dip galvanized steel armatures, four full-length hot dip galvanized steel bolts and continuous chain through the center. The steel armatures and chain vary from application to application depending on whether it is for aquaculture, offshore, surface, sub-surface or other installations.

#### Certified fiber strap alternative

All APB products can be delivered with an fiber strap option, alternatively to the standard steel armature/chain. This option is certified as a lifting appliance.



		APB 500 1 module	APB 1000 2 modules	APB 1500 1 modules	APB 2200 1 module	APB 3000 2 modules	APB 4400 2 modules	APB 6600 3 modules	
Dimensions		117×117×72	117 x 117 x 139	180 x 180 x 114	180×180×147	180x180x195	180×180×245	180×180×327	
Gross volume		585	1160	1730	2500	3400	5000	7350	
Buoyancy*	Surface	495	1050	1500	2200	3000	4400	6400	
Weight		85	145	250	280	400	590	890	
Buoyancy*	-10 m	432,5	885	1354,8	2124	2794,5	4337,8	6405	
Weight		102,5	185	295,3	390,6	505,5	692,3	1010	
Buoyancy*	-30 m	412,5	845	1292,8	2029,4	2670,5	4147,8	6125	
Weight		122,5	225	357,3	485,6	629,5	882,3	1290	
Buoyancy*	-70 m	385	790	1207,5	1898,8	2500	3886,5	5740	
Weight		150	280	442,5	616,3	800	1143,5	1675	
Buoyancy*	-500 m	260	540	820	1305	1725	2699	3990	
Weight		275	530	830	1210	1575	2331	3425	

Other sizes and depths available by request

Dimensions in length x width x height / Volume in liter / Weight in kg

<sup>\*</sup> Net buoyancy, listed at depth rating.



#### Steel armatures

The steel armatures and chain varies depending on use, wheter it is for aquaculture, offshore, surface, sub-surface or other installations.



#### Light:

The APB-series has light armature option.

### **The modular system:**Sections can be added

Sections can be added /removed as needed.

#### Material:

The APB/APBXL-series is produced with PE - non-inflatable hardshell.



APB XL 3000	APB XL 6000	APB XL 8000	APB XL 10000	APB XL 12000
1 module	2 modules	3 modules	4 modules	5 modules
233×233×96	233×233×173	233 x 233 x 235	233 x 233 x 275	233 x 233 x 315
3340.0	6650.0	8950.0	11200.0	13450.0
2914	6000.0	7900.0	9900.0	11900.0
345	650	1050	1300	1550
2786	5913	7829,8	9841,5	11853,3
559	777	1150,3	1428,5	1706,8
2610	5657	7487,8	9413,5	11339,3
735	1033	1492,3	1856,5	2220,8
1810	5305	7017,5	8825	10632,5
1535	1385	1962,5	2445	2927,5
1810	3705	4880	6150	7420
1535	2985	4100	5120	6140



## A-series

All purpose buoys

The A-series are useful in a wide variety of maritime sectors.

Typical foam-f applica

Rope hold	1:
-----------	----

Solid, ribbed and reinforced. injection molded.

#### Valve:

Integrated part of the rope hold, all plastic, unique air-filling adapter.

ונוודוב שבכנטוש.			<b></b>	ing adapten
illy as marker buoys and filled as hose/cable-float ations.	0			<b>rial:</b> uced with PVC atable soft vinyl
	A2	АЗ	A5	A6

		A2	АЗ	A5	A6	A7
Dimensions		50/39	57.5 / 46	94/71	112 / 85	142/110
Eye diameter		2.5	2.8	2.8	3.5	6
Gross volume		32	52	215	405	670
Buoyancy*	Surface	19.2	31.2	129	243	402
Weight		2.1	3.1	8,3	11,3	21
Buoyancy*	-10 m	30,2	47,3	na	na	na
Weight		3.9	5,9	na	na	na
Buoyancy*	-30 m	29,0	45,3	na	na	na
Weight		5.1	7,9	na	na	na
Buoyancy*	-70 m	27,2	42,5	na	na	na
Weight		6.9	10.6	na	na	na
Buoyancy*	-500 m	19,2	30,0	na	na	na
Weight		14.9	23,1	na	na	na

Other depths available by request

Dimensions in length x diameter / Diameter in cm / Volume in liter / Weight in kg

#### Foam filling

Soft plastic products can be filled with PU foam, a rigid/hard type of PUR foam. The PU foam can be formulated and supplied in a variety of different densities, suitable for surface and submerged use.

#### Standard colours:





<sup>\*</sup>Gross buoyancy, listed at depth rating.

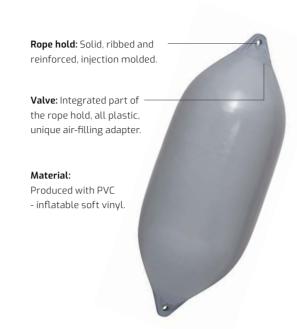
## F-series

Heavy duty fenders

F-series cylindrical fenders have set the standard for heavy duty fenders for close to 60 years.

The F-series cylindrical fenders are widely used by coast guard and navy vessels, pilot boats and commercial ships.

Low weight makes them easy to handle compared to other types of heavy duty fenders. These fenders feature high abrasive resistance and high energy absorption (up to 3,8 ton meter for F13), making them suitable for ships of up to 1500 ton d/w.



Article	Volume	Weight	Height	Diameter	Eye diameter
F8*	135	7.6	1440	375	28
F11**	275	10.5	1455	590	28
F13	700	23.0	1880	750	40

#### Volume in liter / Size in mm / Weight in kg

\* F8 optional double valve system on request. \*\* F11 supplied with double valve system as standard. Do not overinflate. Maximum 0.15 - 0.20 bar of pressure at 20° Celsius. Allowance +/-5%.

#### Inflation guide

For inflation instructions, please refer to page 69.

Colours	Standard:	On request:
Rope hold	•	0
Body	$\circ \bullet \bullet$	• •



## **HDF-series**

Heavy duty fenders

Strong, durable air-filled fenders for commercial crafts. Produced in one piece with extra reinforced rope holds.

The HDF fenders are rotomolded from a strong, 8 mm thick semi-soft thermo-plastic material. High abrasion resistance and light weight. Resistant to seawater, cleaning agents, common solvents, mineral oil and UV-light. Low weight - easy handling, high energy absorption.

Also available for subsea applications.

#### Rope hold:

Very high breaking strength, one-piece product.

#### Valve:

Integrated part of the rope hold, all plastic, unique air-filling adapter.

#### Material:

The HDF-series is produced with PE - non-inflatable hardshell.



Article	Volume	Buoyancy*	Weight	Height	Diameter	Eyelet in ropehold	Breaking strength
HDF9	140	129	11	120	50	5	2500
HDF10	210	192	18	160	50	5	2500
HDF11	265	245	20	145	65	5	3500
HDF12	400	370	30	185	65	5	3500
HDF30	1750	1665	85	235	117	6	4500

Volume in liter / Weight in kg / Size in cm

#### Reaction force

The HDF fenders have been thoroughly tested according to heavy duty performance at SINTEF. The tests show exceptionally good energy absorption to reaction force ratio.

#### Standard colour:



<sup>\*</sup> Net buoyancy.

## LB-series

Light buoys

The LB-series light-buoys are used for marking of fishing equipment as well as fish farms, moorings, cables, pipelines and many different other surface or submerged installations.

The buoys are made to accommodate Jotron® light-armatures. The LB230 and LB600 buoys are delivered with Jotron® marker light integrated.

The LB-series buoys are rotomolded from polyethylene (PE) and filled with polystyrene foam (EPS). The buoys come complete with hot dip galvanized armature and swivel.



Article	Volume	Buoyancy*	Weight	Height	Diameter	Light integrated
LB100	105	92/82	10	110	50	no
LB250	250	225/215	25	120	65	no
LB230	230	182/140	48	190	65	yes
LB600	620	545/300	75	190	70x70	yes

Volume in liter / Weight in kg / Size in cm

#### Light buoys

The POLYFORM® APB/APBXL-series and parts of the Aqua-series can be delivered with light armatures.

#### Standard colours:



<sup>\*</sup> Net buoyancy.







#### AREA OF USE

# manufacturer

Made in Norway – since 1955. Through continuously design and production technology improvements and innovations Polyform offer top quality products.

## History

Polyform AS is the originator of the modern plastic buoy. The company was established in 1955, and the A-buoy was introduced to the market in 1956.

Being located in Ålesund, the North Western coast of Norway, gives us the possibility to test our products in challenging weather conditions. It has also proven beneficial to be close to one of the world's most innovative maritime environments.

Polyform is the leading manufacturer in the field. From the rough North Atlantic waters to the sunny tropics, surface to subsea, our products are made to withstand the toughest conditions and strains. Through a well-established net of distributors, the products are sold all over the world under the trademark POLYFORM®. We offer one of the largest range of buoys and fenders available for a large variety of uses.

Most of our products can be customized, and we can even offer to develop new products in cooperation with our customers and produce on assignments.





## Inflatable soft vinyl production

People associate Polyform's inflatable buoys and fenders with the easily recognizable blue, rib reinforced rope holds of the A- and F-series. No wonder, this has been Polyform's hallmark for almost 60 years. Today, Polyform offers much more, like the extensive range of inflatable buoys and fenders that can be supplied in a wide variety of different colours. The reasons for Polyform's leading edge are the in-house developed molding technologies and the unique raw-materials formulations.

At the end of 2005, after several years of research and development, we launched the first ever fully automated and robot assisted production machinery, built for molding of inflatable fenders. The revolutionary new production machine and method was named POLYMATIQ® and was patented.



## Polyform Bacell™ foam production

Polyform has a variety of products made partially or completely from different foam materials. The better known material is the Bacell™, used for example in the Marina Fender-series, the BPB fishing floats and in many custom made products.

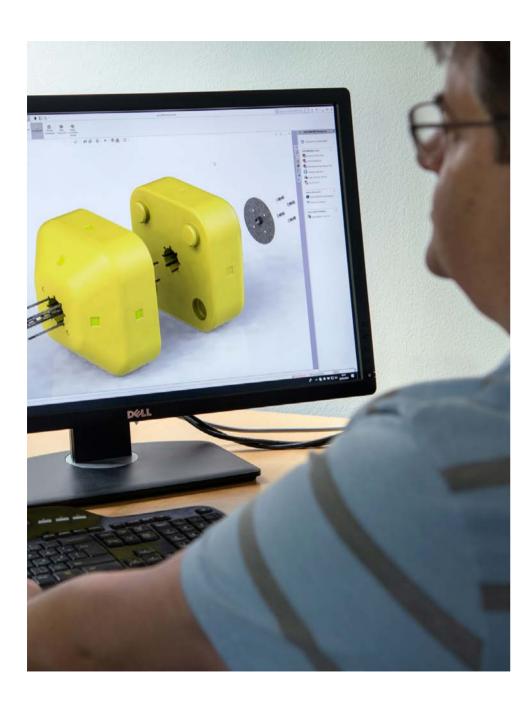
The 100% closed cell foam materials cannot puncture and will never absorb any water. It is highly shock absorbing, has excellent durability, and retains its shape even after high strain and extensive use. In addition it has high buoyancy and it is resistant to UV-light and all weather conditions.



## Non-inflatable hardshell PE production

The Polyform hardshell products are rotationally molded buoys, pontoon floats and custom made products produced from PE (Polyethylene). These are mainly buoys for mooring – but included is also a significant range of different other products like different size and design pontoon floats, tanks, containers and customer tailored products.

Buoys for mooring are usually filled with polystyrene foam (EPS) and may also be offered filled with polyurethane foam (PUR).



# Development and customization

Polyform AS, the manufacturing company for the POLYFORM® products, is a highly competent rotomolder, experienced in molding hard- as well as soft thermo-plastics.

An extensive assortment of different shape and size products have been part of the production range for now close to 60 years.

In addition, Polyform has one of the most comprehensive injection-molding manu-facturing facilities in Norway. Our modern, closed loop-control machines range from 150 T up to 4000 T, thus enabling us to mold a complete range of leading edge polymers.

Our total manufacturing capabilities also include blow-molding, extrusion, expansion and forming products from different types of foam materials, ultrasonic welding and even decoration, in addition to rotomolding and injection molding.

Our skilled engineers and technicians -through their specialized knowledge and expertise – can assist you in the research and development phase of your project. We can produce construction drawings, 3-D drawings, mold design – and we can assist with the construction and machining of pro-duction molds/tools.

Combining our different production techniques and adding specialized techniques, such as structural foam and gas assisted molding technologies may give you, our customer, the edge you need to be the leader in your market place.



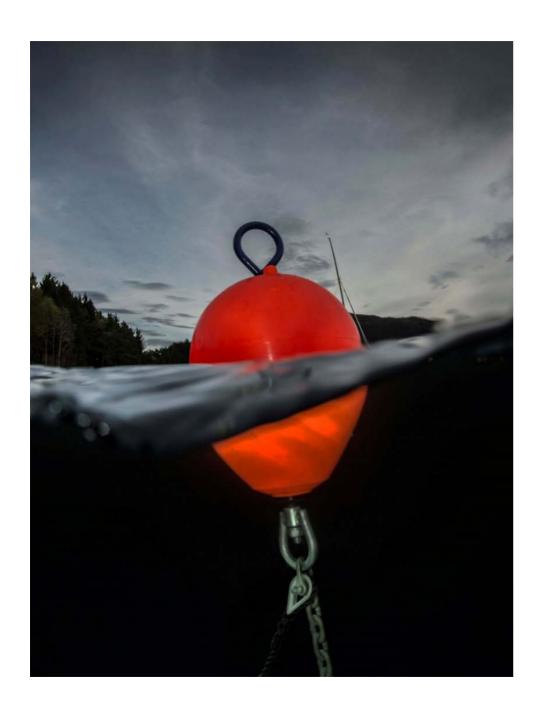
## High quality – no returns

Polyform AS is an ISO certified producer under the ISO 9001:2015 standard, securing the ability to consistently provide products and services that meet customer and regulatory requirements.

High standards, a solution driven approach and customer-based innovation ensures high quality products. Polyform focus on routines and procedures for the control of both semifinished and finished products in production. Continuous controls ensure that defective products are not distributed to the market, resulting in an extremely low return rate at less than 1%. Instead materials are recycled. Polyform AS values long-term relationships with our customers, that includes steady sales/logistics teams and continuous dialogue.

Polyform AS is certified under the ISO 9001:2015 standard, as well as the ISO 14001:2015

standard. ISO 9001 is defined as the international standard that specifies requirements for a quality management system. Organizations use the standard to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements. The ISO 9001:2015 standard is based on a number of quality management principles including a strong customer focus, the motivation and implication of top management, the process approach and continual improvement. Using ISO 9001:2015 helps ensure that customers get consistent, good quality products and services.



# A different story about plastic in the sea

Polyform designs products which are produced to withstand under demanding conditions. Ten to fifteen years is not an uncommon life span for our products. The higher the quality, the fewer units have to be produced.

All of our products are suitable for material and energy recovery, and a growing number of countries are starting to facilitate such recovery. We also know that products that are taken out of service can be put into use in less demanding environments.

#### What about products that are lost?

This does happen from time to time. The advantage is that the products float and are very visible. They can therefore be picked up and brought ashore, to someone who can use them. Boat owners and fishermen who find a buoy at sea will always check to see if it is in a good enough condition to be used on their own boat.

#### But why use plastic when there is already far too much plastic in the sea?

Quality functional plastic products are the best alternatives for production of this kind of flotation products. Many attempts have been made with other materials, but nothing beats plastic with respect to functionality, safety and useful life.

Polyform AS complies with national and international environmental requirements. We only use approved raw materials and all our plastic is produced in-house. This gives us full control and makes it easy to document the origin and quality of the products.

All the products have a good environmental profile, and are designed to withstand the strain they are subjected to. External surfaces are produced to ensure they release a minimum of microplastics during the product's useful life. UV resistant plastic counteracts photodegradation.

Scraps and defective products are sent to a partner that manufactures building plastic with a useful life of 30 to 50 years, or to another form of material recovery. A small proportion goes to energy recovery and becomes district heating. **Nothing goes to waste**.

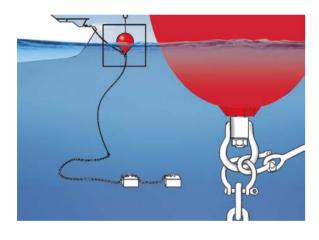
Transport is an important issue as our products are exported all over the world. To reduce the volume and be able to transport as many products as possible in one shipping, inflatable products are not inflated until they reach their final destination. Other products inevitably are of a certain volume, but, on the other hand, have a low weight.

Polyform AS is an environmentally certified business pursuant to ISO 14001-15.

## User guide

#### Mooring

For maximum safety we recommend that only the lower swivel (under water) is used for mooring of the boat. The size of the buoy depends on the weight and total load it will be exposed to.



The dimension of the mooring iron bar and swivel should be chosen in accordance with the size and weight of the boat, weather conditions, the currents and wave height in the area the mooring is intended to be placed.

Please remember to check your mooring for wear and tear at least twice a year.

Do not expose the buoy to a load of more than 60% of its total buoyancy. Please also consider additional weight/load caused by marine growth, currents, wind and waves.

#### Fendering

Fenders are made to protect the boat, also in tough conditions. When deciding on the size and numbers of fenders, plan for the unexpected, toughest weather conditions. Consider extra fenders in addition to the basic need.

Depending on the shape of the hull, weight of the boat ect., consider a possible mix of cylindrical and/ or spherical fenders to achieve maximum protection.

Please note that the fender guide only can provide guidance, the local conditions are of vital importance. If in doubt, ask for professional advise.

#### Fender guide

Boat size	F	Α	G	RFC
<10'		AO	G2	
11-16'	F1	A0 A1	G2	
17-23'	F1 F02 F2	A1 A2	G3 G4	RFC2
24-30'	F2 F3 F4	АЗ	G5	RFC3
31-45'	F5 F6	A4		
46-60'	F7 F8	A5 A6		
61'<	F11 F13	A7		

The fender guide is a guideline for recommended sizes of buoys and fenders for the boats dimensions.

#### Inflation

All Polyform inflatable buoys and fenders are fitted with the V-10 valve or the larger V-40 valve.

You start to remove the valve screw. To inflate you can use a hand pump, but preferably an air compressor with a blowgun or – if you have a Polyform inflation adapter – with a tire nozzle.

The products are design to be inflated to 0.15 til 0.20 bar of pressure at  $20^{\circ}$  Celsius. For use under tropiical conditions the pressure has to be reduced to 0.05 - 0.06 bar.

When inflating products without a pressure gauge, fill the fender/buoy until the walls start to expand, and make sure that you are able to depress the wall at least 1/2 inch (approx. 1 cm) with light hand pressure. (For tropical conditions: approx. 1 inch (1.5 cm). Do not overinflate as this will weaken the product and voids the warranty. The use of pressure is recommended.





#### Cleaning

Vinyl cleaner, mineral spirits or simply soap and water may be uses. Stronger chemicals like Lacquer Thinner or Acetone will irreversibly harm the products by breaking down the chemical composition.

#### Marking

Most Polyform products are highly siliconized and can be difficult to mark, but permanent marker pens with fade ressistant and quick-drying ink based on alcohol, are widely used.



## Made in Norway

We are situated in the outskirts of Aalesund, on the north-western part of Norway. An area known for having one of the world's most innovative environments within the maritime industry.

Our coastal shoreline is one of the harshest in the northern hemisphere, and it is here that Polyform products are produced and distributed to all parts of the globe.

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