

Bound to Innovate

Pipe Floater for Dredging

Wooky

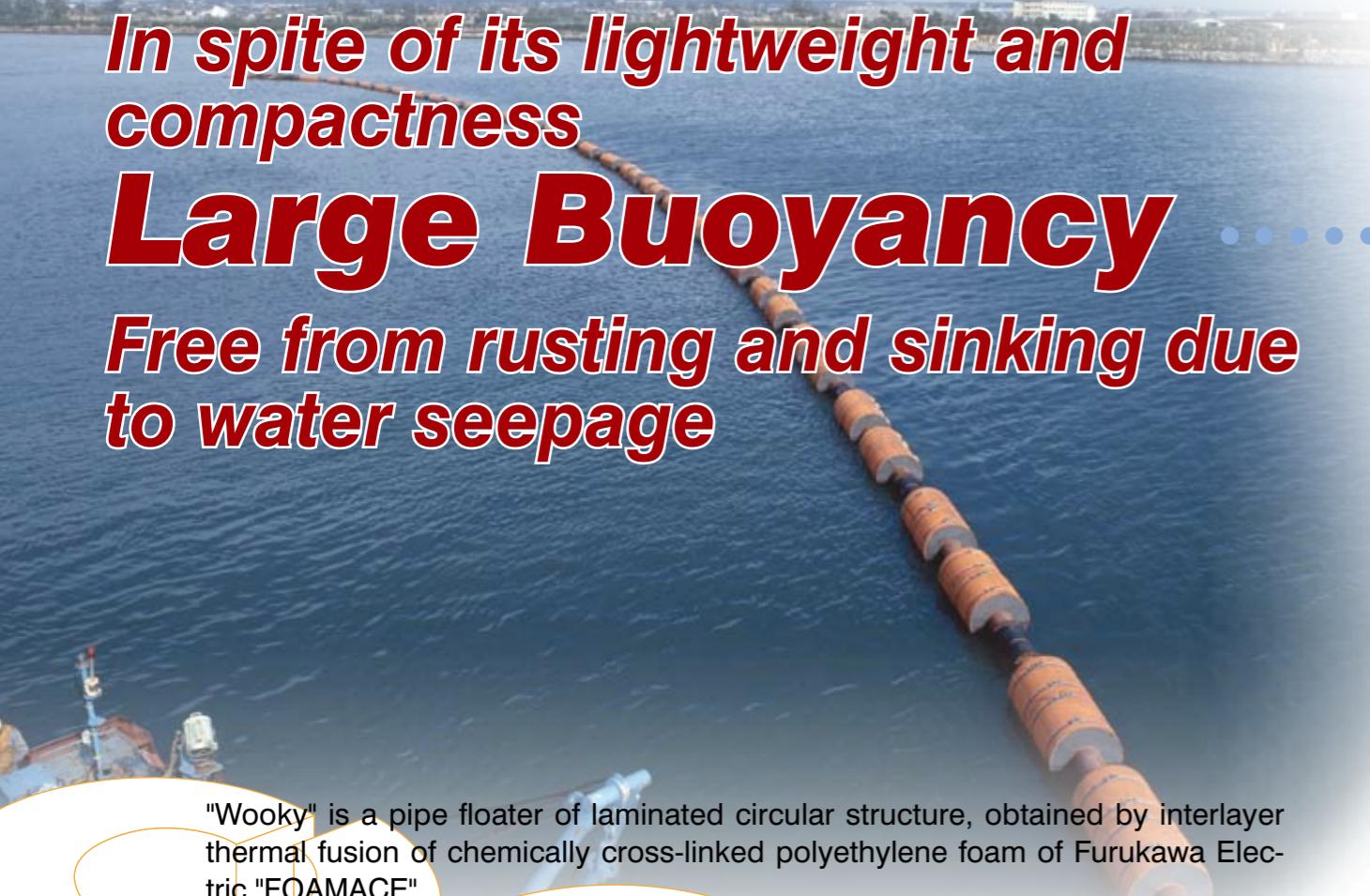


FURUKAWA ELECTRIC

In spite of its lightweight and compactness

Large Buoyancy

Free from rusting and sinking due to water seepage



"Woody" is a pipe floater of laminated circular structure, obtained by interlayer thermal fusion of chemically cross-linked polyethylene foam of Furukawa Electric "FOAMACE".

Woody can be mounted directly on sand discharge pipes, enabling compact and simple installation.

Eliminating sinking due to water seepage, Woody achieves stabilized buoyancy and durability, thereby exhibiting superior performance.

Stabilized Buoyancy

The fine closed cells individually exert buoyancy, and they do not absorb water. Moreover, since Woody has a solid structure, it won't sink even if it is damaged by impact causing an opening or hole.

In designing and manufacturing, Woody is tailored for its size and mounting numbers according to specified pipes to be used.

Ease of Handling

For its lightweight and compactness, Woody is easy to handle, allowing easy mounting on to sand discharge pipes. It can be used to float in shallow water areas and narrow channels.

Long-Term Stability

Woody neither corrodes due to sea water nor sinks due to seepage, thus maintaining stabilized buoyancy for long periods.

Environment and Safety Is Taken into Account

Woody uses neither chlorofluorocarbons for foaming nor hazardous substances leaching into sea water. Moreover, its resiliency reduces impacts on equipment in case of collisions.

High Transportability and Economic Efficiency

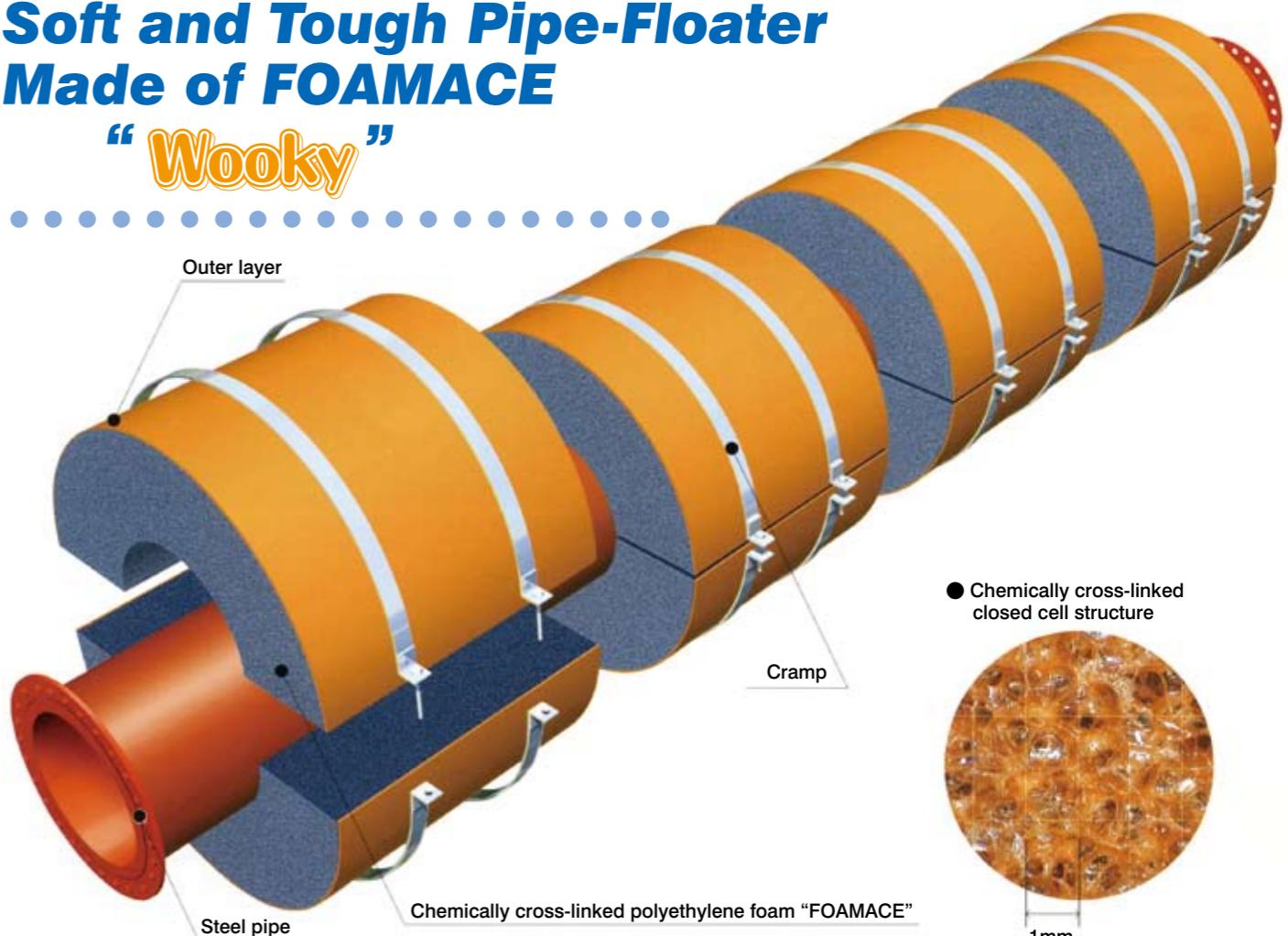
Woody saves storage space and upgrades transportation efficiency. Moreover, it can be used repeatedly, resulting in much improved economic efficiency.

It is best suited for transportation of pressure feed tubes in dredging construction.

- Woody is best suited for piping in landfill sites, since it floats in shallow waters.
- Woody allows transporting over a soft muddy ground.
- Woody can be towed by a small ship.



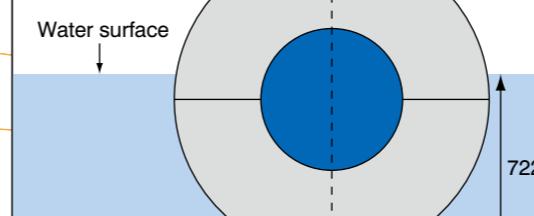
Soft and Tough Pipe-Floater Made of FOAMACE "Wooky"



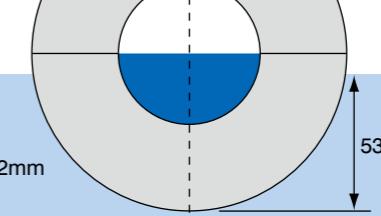
[Draft Balance]

■ Preconditions

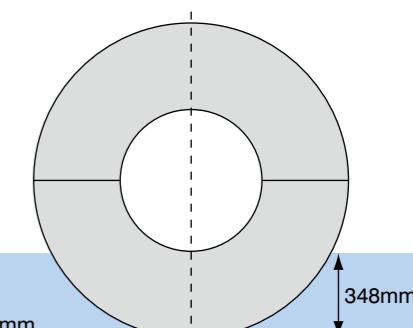
560-mm dia. sea-floating pipe of 6,000mm in length plus 560-mm dia. sleeve Standard design using four units of Woody
(Size of Woody: 560-mm inner dia. x 1,240-mm outer dia. x 1,000-mm length)



Muddy water content: 100% (Specific gravity: 1.2)
Water submersion ratio: 60%
Draft: 722mm



Muddy water content: 50% (Specific gravity: 1.2)
Water submersion ratio: 41%
Draft: 539mm



Muddy water content: 0% (Specific gravity: 1.2)
Water submersion ratio: 23%
Draft: 348mm

[Guideline for Standard Woody Design]

(Specific gravity of muddy water: 1.2; Draft in fully-loaded operation: 60%)													
Sand discharge pipe: nominal dia. (mm)	200	250	300	355	410	510	560	610	630	660	685	710	760
Sand discharge pipe: inner dia. (mm)	204.7	254.2	304.7	355.0	410.0	510.0	560.0	610.0	630.0	660.0	685.0	710.0	760.0
Sand discharge pipe: thickness (mm)	5.8	6.6	6.9	9.0	9.0	9.0	9.0	12.0	12.0	12.0	12.0	12.0	12.0
Sand discharge pipe: length (mm)	5,500	5,500	5,500	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Number of Woody used: (unit per steel pipe)	4	4	4	4	4	4	4	4	4	4	4	5	5
Inner dia. of Woody (mm)	210	260	310	360	420	510	560	610	630	660	690	710	760
Outer dia. of Woody (mm)	490	590	690	840	950	1,140	1,240	1,390	1,430	1,490	1,540	1,470	1,560
Length of Woody (mm)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

* Designs under other conditions listed above are available, with different sizes of sand discharge pipe and different numbers of Woody unit. Please make inquiries.

Mounting Procedures

- Example of mounting using metal cramp
(Sand discharge pipe: 810-mm dia. x 6,000mm; Five WOOKY units are used per one length)



1 Metal cramp and WOOKY (lower half) are arranged.



•Example of WOOKY mounted using metal cramps for sea water use.



2 Sand discharge pipe is laid down.



3 WOOKY (upper half) is overlaid. The size is designed to be a little tight to prevent coming off. Press it down to fit properly.

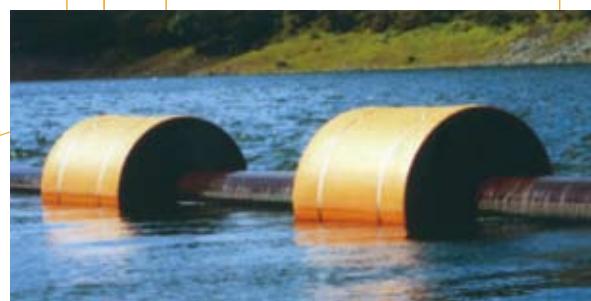


4 Fasten the bolt firmly so that the metal cramp sinks somewhat into the surface.

- Mounting using steel band (for freshwater)
An exclusive tool is needed.



As shown in the photo, put the outside steel band on the binding tool to let it through, and fasten the band by moving the lever back and forth.



•Example of WOOKY mounted using steel bands for freshwater use.

⚠ Caution

WOOKY is flammable, being made of foamed polyethylene. When a fusion burner and the like is used for disassembly, take extra care that WOOKY does not catch fire. Also watch out for fire during storage.

Pipe Floater for Dredging Wooky

Wooky can be used in combination with steel drum floaters.

Wooky can be used in combination with steel drum floaters, when line elongation is needed. The drum floaters would sink, making a smooth transition.



Example of Use



Pipe Floater for Dredging Wooky

■ Track Record of Wooky (Abstract of typical construction work)

Name of construction work	Sand discharge pipe dia. (mmφ)
Banyu river, Kanagawa-pref.	510
Kumamoto port, Kumamoto-pref.	340
Lake Kasumigaura, Chiba-pref.	270
Island City, Hakata bay, Fukuoka-pref.	760
Toyano tideland, Niigata-pref.	160
Port Island, Hyogo-pref.	560
Tokoname offshore, Ise bay, Aichi-pref.	355
Central Japan International Airport, Aichi-pref.	800
Multi-purpose dam, Yamagata-pref.	310
Artificial beach, Nachi bay, Wakayama-pref.	560
Singapore	700



•Typical loading of Wooky on a truck.



•Wooky can be stacked in many ways to ensure space-saving storage.

■ Frequently Asked Questions about Wooky

(Below will be given answers to frequently asked questions.)

Q.1 Is Wooky free from getting chipped and crushed?

A There are varieties of plastic foams, but Wooky is made of chemically cross-linked polyethylene. Wooky has softness, and seldom cracks or buckles.

Q.2 Does Wooky fall to pieces due to ultraviolet ray?

A Wooky has a cylindrical layered structure made of several tens of layers. The outermost layer does not worn out in ten years or so. Although its lustered color on the surface fades away, its strength and buoyancy does not degrade.

Q.3 Shellfish and algae, do they attach on Wooky? If so, how can they be removed?

A They certainly attach since Wooky is made of non-toxic materials. But Wooky has a smoother surface than steel floaters, so that it seems to gather less shellfish and algae. If they attach, remove them by pounding after drying.

Q.4 Is it possible to exchange the steel pipes floated on the sea?

A It is difficult since they are half immersed in the sea.

Q.5 Why is Wooky colored into two parts?

A The outermost surface uses the reinforced grade of FOAMACE, and it is colored orange for the purpose of warning indication. While, the main body is colored black to enhance weatherability.

Q.6 Is Wooky safe against being dragged on earth and sand? Do pebbles no damage?

A Since Wooky has a solid foam structure, it does not sink even when damaged by pebbles. Moreover, even when it is dropped from a truck, rolled on land or plunked on its end, Wooky does not sink during usage.

Q.7 Can Wooky be used under the sea?

A Under the deep sea, Wooky crushes since it is not pressure-proof. The maximum depth of using Wooky is its self-diameter.

Q.8 Is Wooky strong against fire?

A Wooky is flammable, being made of foamed polyethylene. When a fusion burner is used, take extra care that Wooky does not catch fire due to direct exposure to flame or molten metal.

Q.9 Is there any particular attention to be given as to transportation and storage?

A During transportation, fix Wooky firmly to take care of its lightweight. Also watch out for fire carefully during storage.

For Workboats

Furukawa Anchor Buoy D-type

FOAMACE-made anchor buoy that is light in weight, high in softness and toughness. Best suited for workboats which require frequent casting and hoisting of anchor.

Features



Lightweight

It is half as heavy as steel anchor buoys.



Non Water-Absorbing

It does not absorb water since the floater is made of FOAMACE, a chemically cross-linked polyethylene foam having closed cell structure.



High Safety

Even when collided with by any chance, it eases impact thanks to its cushioning effects.

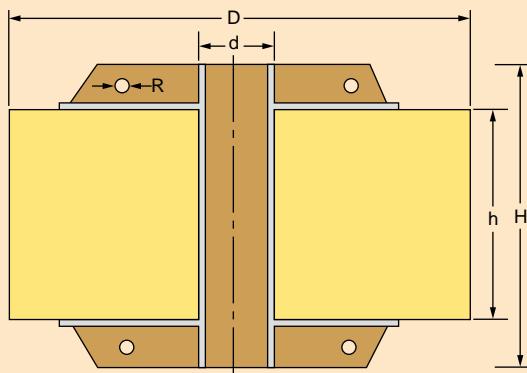
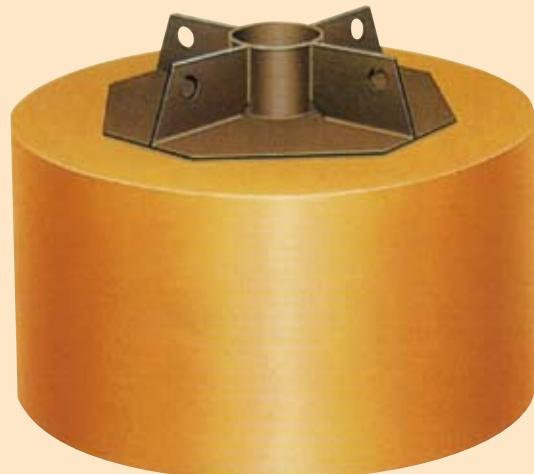


High Durability

FOAMACE does not rust out.



Provided with Holes on Metal Fitting Convenient for Hanging and Tugging



Structure and Material

Floater

FOAMACE, a chemically cross-linked polyethylene foam, is laminated in a circular form and its layers are thermally fused together.

Metal Fitting

Made of steel, rustproof coated.

Product No.	Max. buoyancy	D mm ϕ	d mm ϕ	H mm	h mm	R mm ϕ	Mass
D-200	200kg	840	150	700	500	40	Approx. 66kg
D-300	300kg	1000	150	700	500	40	Approx. 72kg
D-600	600kg	1000	150	1200	1000	40	Approx. 102kg

* Please make inquiries for special sizes.

⚠ Cautions When Using

This product is flammable, being made of foamed polyethylene. In case of using fire, cover the product with flame-resistant sheets.

SALES COMPANIES

Furukawa Sangyo Shanghai Co., Ltd.

Rm.22c11 Jiu Shi Fu Xing Mansion, No.918, Huai Hai Zhong Road, Shanghai
Tel. +86-2164156394

Furukawa Sangyo (H.K.) Ltd.

Unit A, 18F Empire Land Commercial Centre No.81-85 Lockhart Road, Wanchai, Hong Kong
Tel. +852-28652831

Furukawa Sangyo (MALAYSIA) SDN.BHD.

1106, 11th Floor, Amcorp Tower A, Amcorp Trade Center Persiaran Barat, 46050, Petaling Jaya,
Selangor Darulehsan, Malaysia
Tel. +603-79577000

Furukawa Sangyo (THAILAND) LTD.

23th Floor, Charn Issara Tower 1, 942/168, Rama 4 Road, Suriyawongse Sub-District, Bangkok
District, Bangkok, Thailand, 10500
Tel. +66-2267-2012

Furukawa Sangyo (INDIA) LTD.

Flat No.806 Antariksh Bhawan, K.G. Marg. New Delhi 110001
Tel. +91-11-4717-7177 Fax. +91-11-4717-7113

Furukawa Electric Singapore Pte. Ltd. (FES)

10 Anson Road, #25-07/08 International Plaza, Singapore 079903
Tel. +65-6224-4686 Fax. +65-6224-2362

Furukawa Electric Europe Ltd. (FEEL)

3rd Floor, Newcombe House, 43-45 Notting Hill Gate, London W11 3FE, United Kingdom
Tel. +44-20-7313-5324 Fax. +44-20-7313-5310
<http://www.furukawa.co.uk/>

MFG.



FURUKAWA ELECTRIC CO., LTD.

Foamed Products Division, Energy and Industrial Products Company

Head office : Marunouchi Nakadori Bldg., 2-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo, Japan 100-8322
Tel. +81-3-3286-3894 Fax. +81-3-3286-3472