

GRP / FRP SECTIONAL WATER TANKS



Manufacturer of :

- GRP Sectional Water Tank
- Hot Dipped Galvanized Steel Sectional Water Tank
- Stainless Steel Sectional Water Tank



Malaysia, Melaka



Sierra Leona



France / Romania



**King Abdullah Financial District (KAFD)
Riyadh, Saudi Arabia**



Maldives

INTRODUCTION

PIPECO was formed in 1984 as an engineering hardware company and ventured into sectional panel water tank business in 1989. To date, we have 27 years experience manufacturing water tanks. PIPECO has provided water storage solutions to many companies in world, supplying both pressed steel and GRP (Glass Reinforced Plastic) sectional water tanks. PIPECO is a global company, which already has partnerships in various countries, including: Malaysia, Singapore, south East Asia, Middle East countries such as U.A.E, Qatar, Saudi Arabia, Oman, and European countries such as France, Belgium and Australia.

The production facilities are housed in Port Klang, Malaysia, with an area of 20,000m². Our facilities have the capacities to annually produce 300,000 GRP tank panels and 50,000 pressed steel tank panels. This allows PIPECO to fulfill customer's expectations with competitive pricing, prompt delivery and consistent, high quality products.

PIPECO strives to provide the best quality product to the customer. We have a well established quality management system. Since 2003, PIPECO has been accredited the ISO 9001:2000 standard. This ensures that the tank panel and accessories are produced under the most stringent quality audit and meet the required structural and durability performance. By using advanced automated production facilities and employing a team of highly skilled production staff, PIPECO is able to ensure that the tank panel and accessories produced conforms to a consistent high quality standard.

In addition, PIPECO values customer satisfaction and expectations. Therefore, PIPECO communicates with the clients throughout all stages of the tank provision; from the design, supply, installation and the final commissioning stage. This ensures that the specific requirements of the customers are met.

Production Facilities



Production Facilities



GRP SECTIONAL WATER TANK

GRP TANK @ MELAKA, MALAYSIA

PROJECT : KONICA

TANK SIZE : [125m x 12m x 3m(H)] + [20m x 15m x 3m(H)]

CAPACITY : 5400m³ / 1.2 million gallons of water



GENERAL SPECIFICATIONS

Standard : Singapore Standard SS245: 1995 Cross reference to British Standard BS 7491 Part 3:1994 and BS EN 13280:2001

Materials : Resin- Isophthalic unsaturated polyester resin conforming to BS 3532 specification
Fiber Glass- Low alkali fibre glass conforming to JIS R3411 to R3417 or BS 3396, BS 3496 and BS 3749 specifications

Testing Method : BS 2782

Manufacturing Process : SMC hot pressed compression moulding

Tank Structural Support : External : Standard Type : Hot Dipped Galvanised Steel
Optional Type : External Braced type (Metal-Free tank internal for non- partitioned tank only).

Internal : Standard Type : SS 304 Tie-Rod or Cleat / Angle Stay
Optional Type : SS 316 Tie-Rod or Cleat / Angle Stay

Roof Support : PVC Vertical Poles and GRP roof panel stiffener

Sealant : Non toxic PVC foam

Bolt, Nuts, Washers : External : Standard : Hot Dipped Galvanised Steel
Optional : SS 304/A2 or SS 316/A4

Internal : Standard : SS 304/A2 (In-contact with water)
Optional : SS 316/A4 (In-contact with water)

Roof : Hot Dipped Galvanised Steel or unless otherwise specified

Ladder : External - Standard : Hot Dipped Galvanised Steel
Internal - Standard : PVC
- Optional : GRP or 316

Water Level Indicator : Standard : Reversed Reading Mechanical Ball Float Type with Mouse
Optional : Direct Reading Clear Tube Type

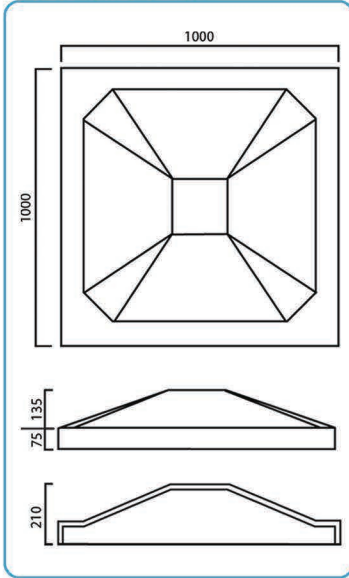
Nozzle Panel : Flat panels will be provided for any type of piping materials

Why You Should Select PIPECO GRP Sectional Water Tank?

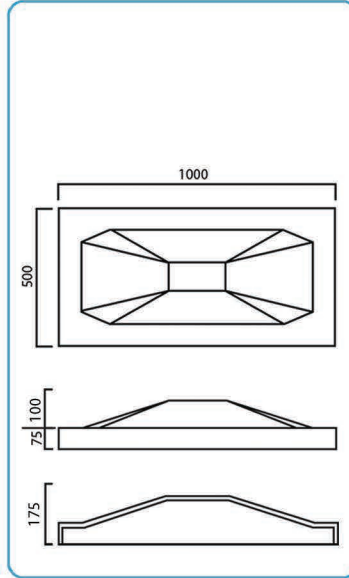
1. Exceptionally clean water storage, with WRAS approval.
2. Smooth surface finish on both sides of panel to prevent algae and bacterial growth on panels.
3. Exceptional corrosion resistance with the corrosion proof nature of GRP panel.
4. Each panel and components are manufactured with stringent quality control.
5. Excellent strength and rigidity, designed with safety factor of 6.
6. Strong resistance to high UV and harsh weathering condition.
7. Ease of handling, transportation, installation and maintenance.
8. Panel design is modular and could accommodate various size and shape requirements to fit space constrained site condition.
9. Excellent thermal insulation performance with the option of insulated panel.

GRP PANEL DESIGN

BASE PANEL

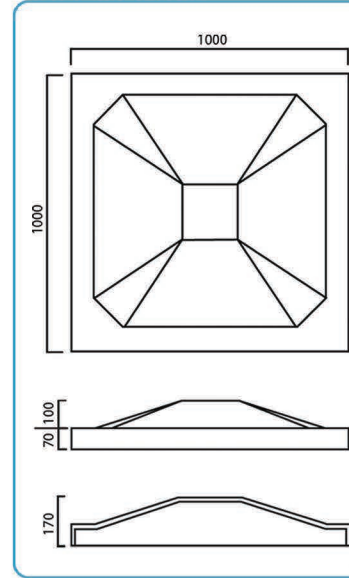


Base Panel 1m x 1m

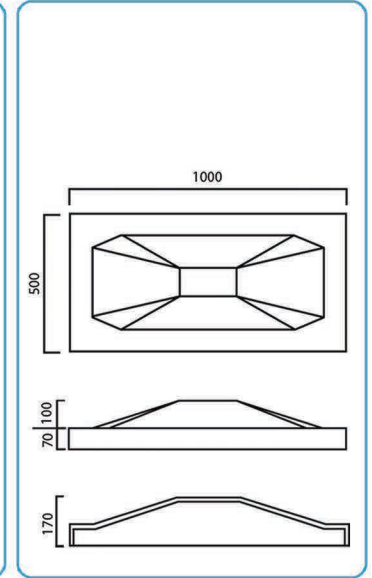


Base Panel 1m x 0.5m

TOP PANEL

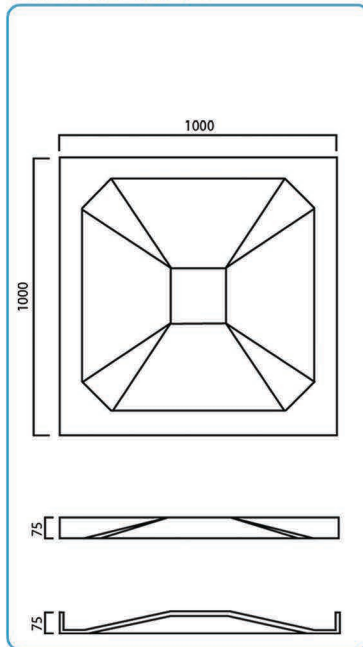


Top Panel 1m x 1m

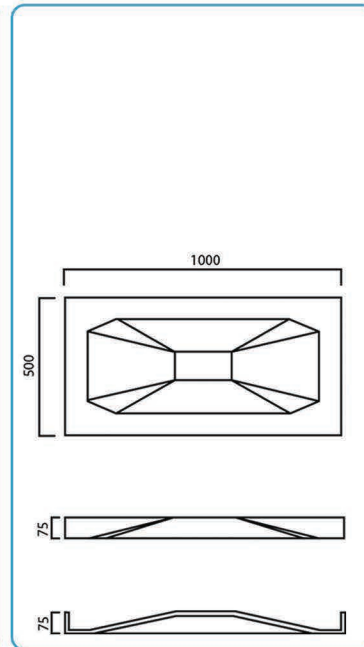


Top Panel 1m x 0.5m

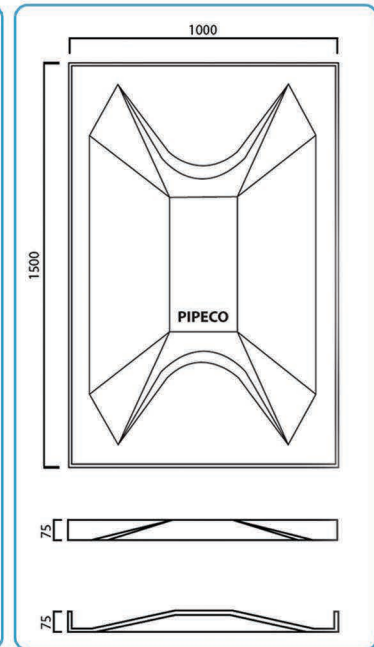
SIDE PANEL



Side Panel 1m x 1m



Side Panel 1m x 0.5m

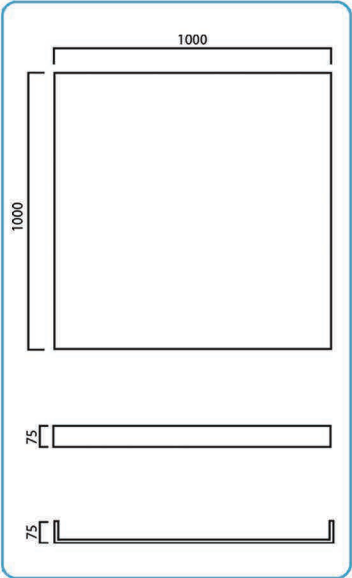


Side Panel 1m x 1.5m

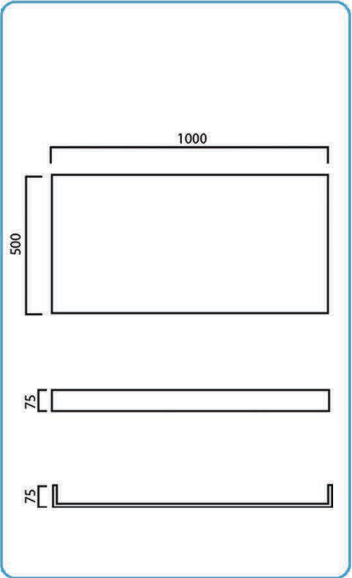
Performance of Panels

Characteristics	PIPECO GRP Tank Panel Performance	Acceptance Criteria (SS 245:1995 Specification)
Tensile Strength (MN/m ²)	103	>70 (min)
Bending Strength (MN/m ²)	170	> 100 (min)
Elastic Modulus in Bend (MN/m ²)	13580	> 6000 (min)
Glass Content (%)	39	> 25 (min)
Barcol Hardness	59	>30 (min)
Water Absorption (%)	0.05	1.0 (max)

NOZZLE / FLAT PANEL

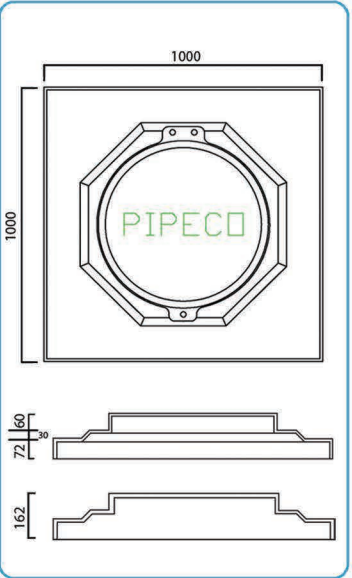


Nozzle/Flat Panel 1m x 1m



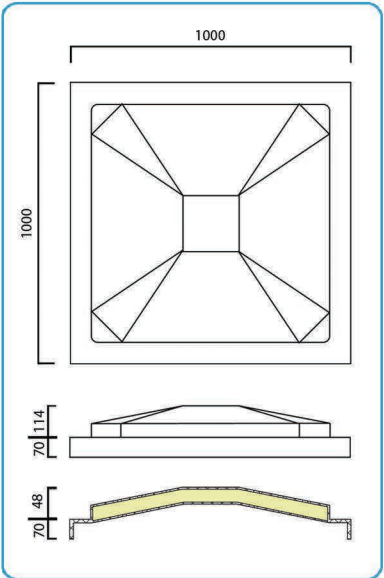
Nozzle/Flat Panel 1m x 0.5m

MANHOLE

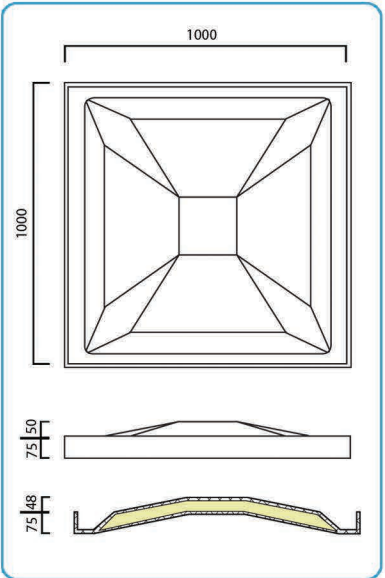


Manhole 1m x 1m

PRE-INSULATED PANEL



Top Panel 1m x 1m

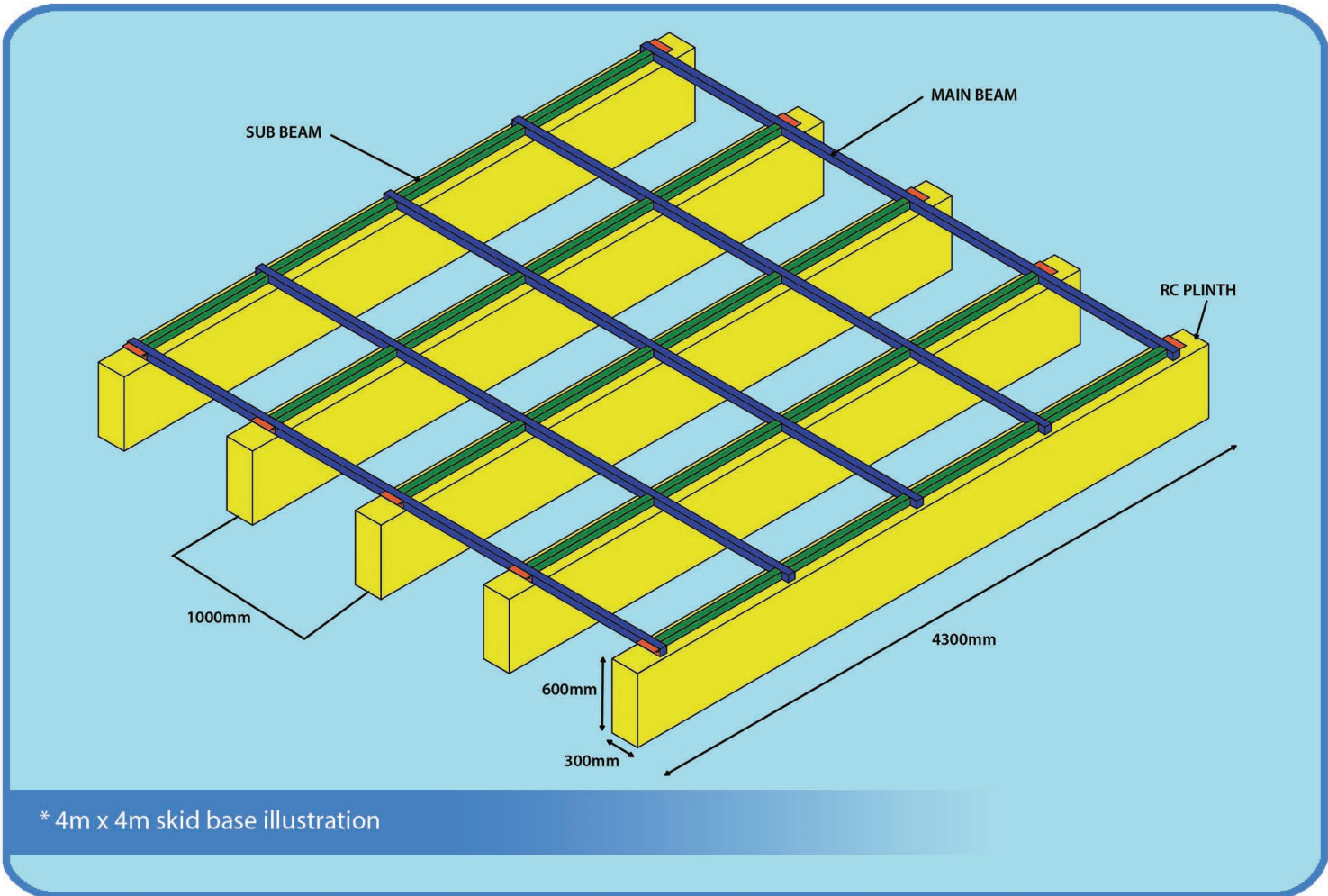


Side Panel 1m x 1m

By encapsulating a 25mm ~ 50mm layer of rigid polyurethane foam, PIPECO pre-insulated panel could maintain the desired water temperature stored inside the tank under extreme temperature condition. PIPECO pre-insulated panel could be selected for water storage where there is a need to stabilize the temperature against extreme heat or freezing conditions so to prevent dew formation.

SKID BASE SPECIFICATIONS

Skid Base Specifications for GRP sectional water tank



Tank Height	Main Beam	Sub Beam	Concrete Plinth Distance
1.0m	not provided	not provided	1000mm c/c
1.5m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
2.0m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
2.5m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
3.0m	Hollow Section 50mm x 50mm x 3mm	Hollow Section 50mm x 50mm x 3mm	1000mm c/c
3.5m	C-channel 150mm x 75mm or I Beam 150mm x 100mm	Angle Bar 75mm x 75mm x 6mm or C-channel 50mm x 100mm	1000mm c/c
4.0m	C-channel 150mm x 75mm or I Beam 150mm x 100mm	C-channel 50mm x 100mm	1000mm c/c

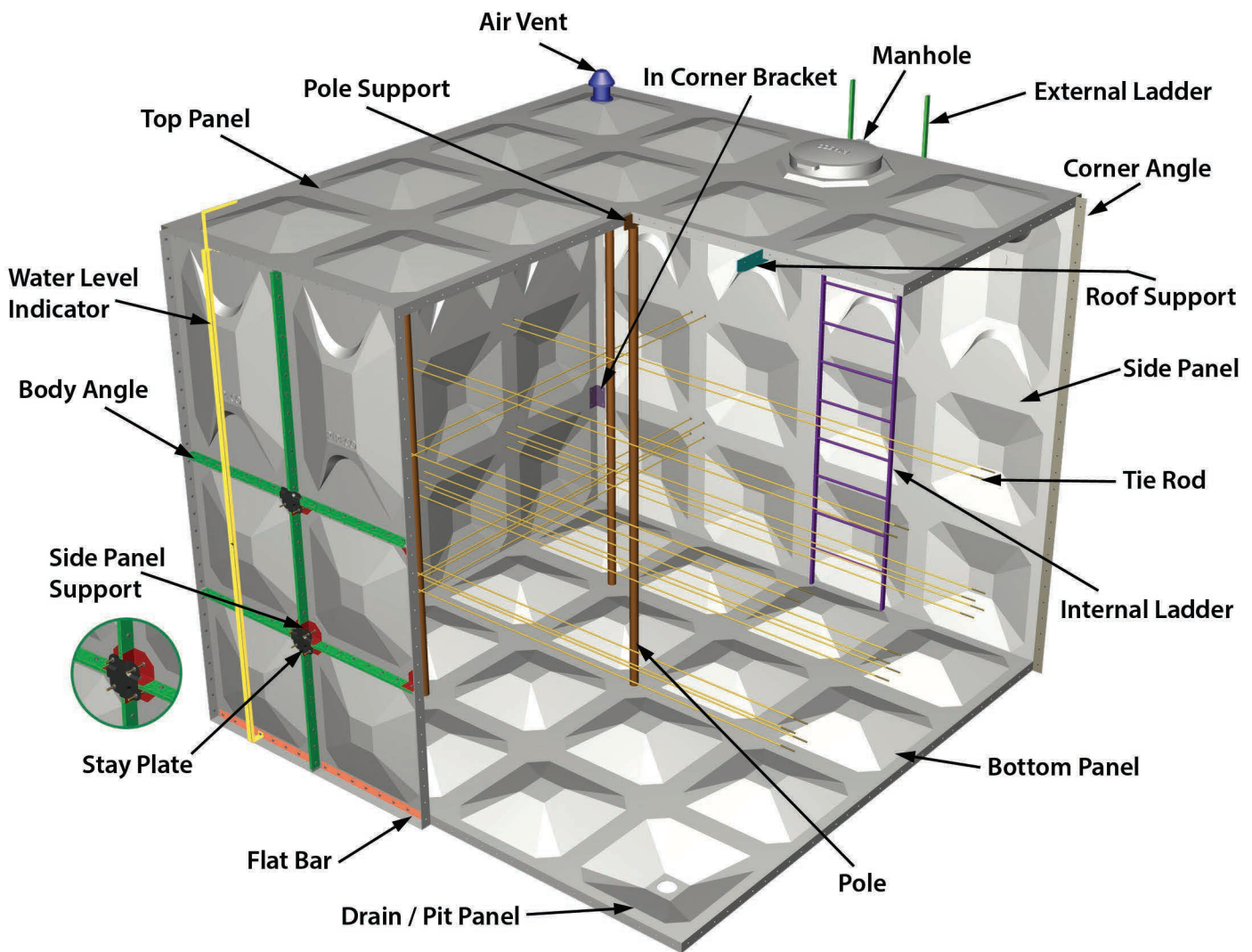
***PIPECO reserves the right to provide alternate skid base designs**

PIPECO recommends an ideal concrete plinth size of 300mm (W) x 600mm (H), with maximum variance in height of not more than 2mm

GRP SECTIONAL WATER TANK

Overview of internal structural support for GRP sectional water tank

PIPECO GRP sectional water tank is constructed with bottom, side and top panels, completes with external and internal structural reinforcement and necessary tank accessories to facilitate water storage

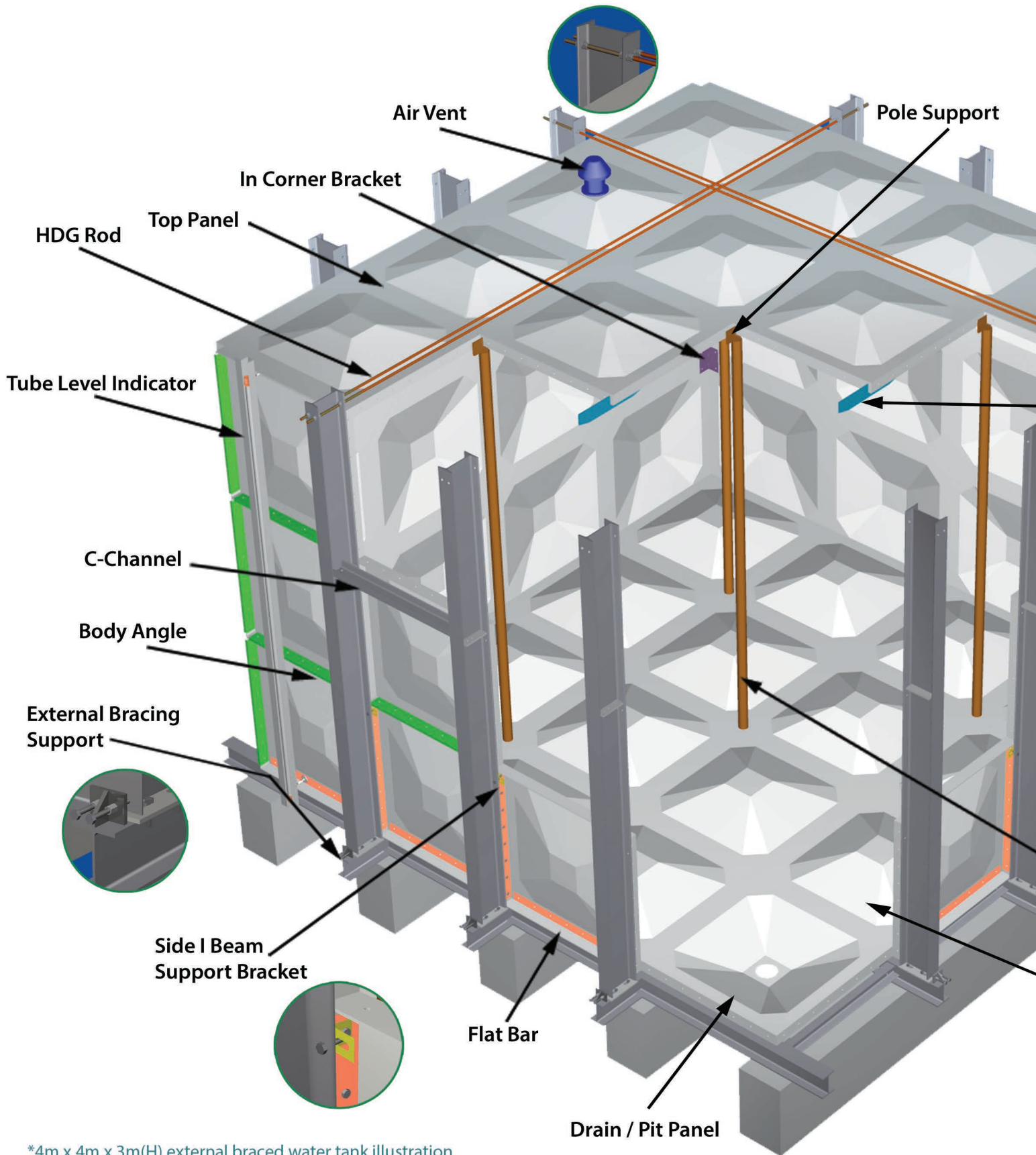


*4m x 4m x 3.5m(H) GRP sectional water tank illustration

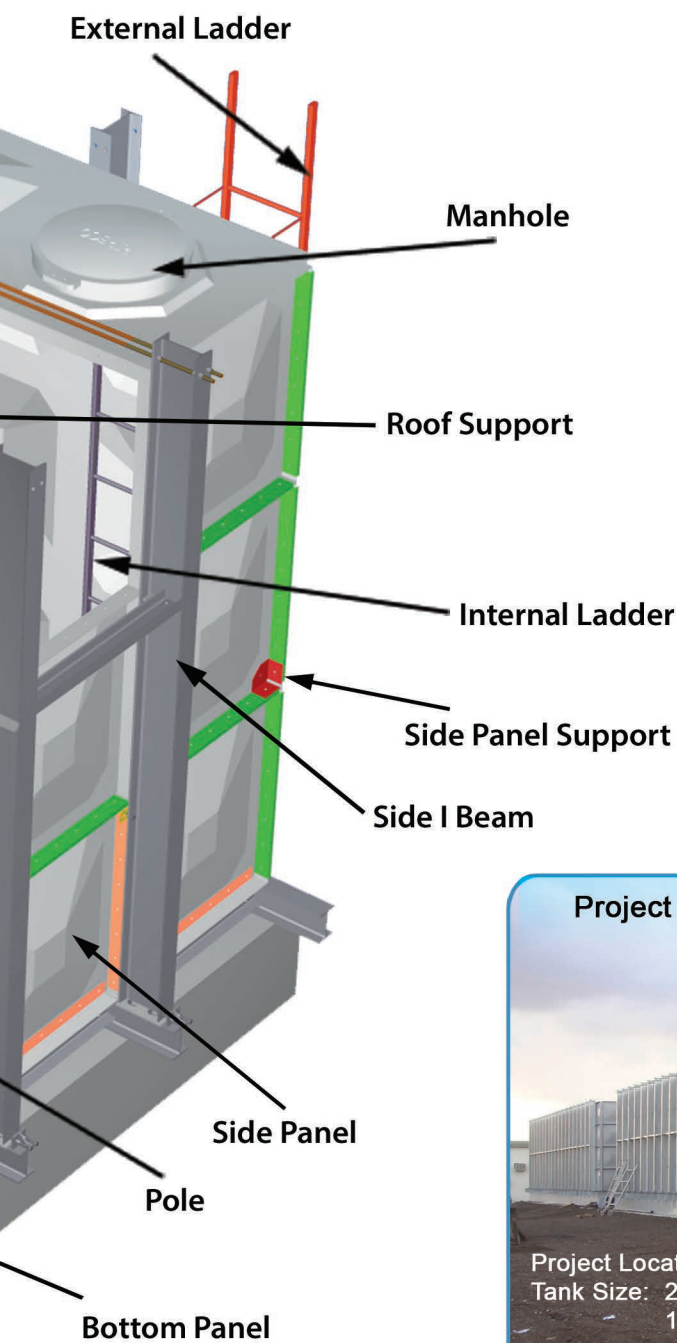
Main Components	External Structural Support	Internal Structural Support	Tank Accessories
Top Panel Side Panel Bottom Panel Drain/Pit Panel	Body Angle Corner Angle Side Panel Support Flat Bar Stay Plate	Pole Pole Support Tie Rod Roof Support In Corner Bracket	Access Manhole Air Vent Water Level Indicator Internal Ladder External Ladder

GRP EXTERNAL BRACED SECTIONAL WATER TANK

Overview of external structural support for GRP sectional water tank



*4m x 4m x 3m(H) external braced water tank illustration



Main Components	Internal Structural Support
<ul style="list-style-type: none"> • Top Panel • Side Panel • Bottom Panel • Drain / Pit Panel 	<ul style="list-style-type: none"> • Pole • Pole Support • Roof Support • In Corner Bracket
External Structural Support	Tank Accessories
<ul style="list-style-type: none"> • Flat Bar • Body Angle • Side Panel Support • C-Channel • Vertical I Beam • HDG Rod • Side I Beam Support Bracket • External Bracing Support 	<ul style="list-style-type: none"> • Access Manhole • Internal Ladder • External Ladder • Air Vent • Tube Level Indicator

Project Name : Camel Training and Swimming Pool in AL-Ain



Project Location: Abu Dhabi
 Tank Size: 20m x 20m x 4m(H) - 2units
 10m x 10m x 4m(H)



QUALITY ASSURANCE

Our Ref: HU/M1402126
Test Report: M105722 & M105795

17th September 2014

WRAS
Water Regulations Advisory Scheme

Pipeco Tanks Malaysia Sdn. Bhd.
Lot 3, Lorong 2/1, Solok Hishammuddin 1,
Kawasan Perusahaan Selat Kelang Utara,
42000 Port Klang,
Selangor,
Malaysia.

WATER REGULATIONS ADVISORY SCHEME (WRAS)
MATERIAL APPROVAL

The material referred to in this letter is suitable for contact with wholesome water for domestic purposes having met the requirements of BS 6920-1:2000 and/or 2014 'Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water'.

The reference relates solely to its effect on the quality of the water with which it may come into contact and does not signify the approval of its mechanical or physical properties for any use.

GLASS REINFORCED PLASTICS (GRP) – COMPONENTS **5120**

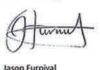
Pipeco GRP Panel. Grey coloured, compression moulded GRP panel. For use with water up to 55°C.

APPROVAL NUMBER: 1405566
APPROVAL HOLDER: PIPECO TANKS MALAYSIA SDN. BHD.

The Scheme reserves the right to review approval. This approval is valid between May 2014 and May 2019.

An entry, as above, will accordingly be included in the Water Fittings Directory on-line under the section headed, 'Materials which have passed full tests of effect on water quality'.

The Directory may be found at: www.wras.co.uk/directory

Yours faithfully

Jason Farnham
Approvals & Enquiries Manager
Water Regulations Advisory Scheme

No Lesen: PC001657
Licence No: _____

SIRIM QAS
INTERNATIONAL

LESEN PENSIJILAN BARANGAN
Product Certification Licence

SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada
SIRIM QAS International Sdn. Bhd. hereby grants to

PIPECO TANKS MALAYSIA SDN. BHD.
LOT 3, JALAN 2/1, SOLOK SULTAN HISHAMMUDDIN,
SELAT KELANG UTARA
PELABUHAN KLANG
42000, KLANG
SELANGOR, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on
FIBREGLASS REINFORCED POLYESTER (FRP) SECTIONAL WATER TANKS

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with
MS 1390 : 2010


Khalidah Mustafa
Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

SIRIM QAS International Sdn. Bhd.
Pia Sdn. Bhd. (123456)
No. 15, Jalan 1/1, Seksyen 17, Petaling Jaya, Selangor, Malaysia.
Tel: +603 233 287 200 Fax: +603 233 287 201
E-mail: info@qas.com.my Website: www.qas.com.my

Tarikh Mula Pensijilan : 03 April 2015
Tarikh Dikurangkan : 25 May 2015

Issue Date : 03 April 2014
Issue Date : 25 May 2015

MS 1390 : 2010
MS 1390 : 2010

This Licence is granted subject to the provisions of the Product Certification Agreement of SIRIM QAS International Sdn. Bhd.

Kingdom of Saudi Arabia
Ministry of Water & Electricity
Minister's Office



السعودية العربية
وزارة المياه والكهرباء
مكتب الوزير

(٢٠١٤)

سعادة وكيل الوزارة لشؤون المياه
سعادة الرئيس التنفيذي لشركة المياه الوطنية
سعادة المدير العام لإدارة الصرف الصحي
سعادة المدير العام للمياه بمنطقة الرياض
سعادة المدير العام للمياه بمنطقة مكة المكرمة
سعادة المدير العام للمياه بمنطقة المدينة المنورة
سعادة المدير العام للمياه بمنطقة القصيم
سعادة المدير العام للمياه بالمنطقة الشرقية
سعادة المدير العام للمياه بمنطقة عسير
سعادة المدير العام للمياه بمنطقة تبوك
سعادة المدير العام للمياه بمنطقة حائل
سعادة المدير العام للمياه بمنطقة الحدود الشمالية
سعادة المدير العام للمياه بمنطقة نجران
سعادة المدير العام للمياه بمنطقة جازان
سعادة المدير العام للمياه بمنطقة الباحة
سعادة المدير العام للمياه بمنطقة الجوف
السلام عليكم ورحمة الله وبركاته

إشارة إلى خطاب سعادة وكيل الوزارة لشؤون المياه رقم (٢٠١٤/٢٠١٤) بتاريخ ١٤٣٣/٢/٢١هـ، بشأن قيام الوكالة بدراسة منتجات مؤسسة (بيبيكو) والتي هي عبارة عن تقنية بناء خزانات مياه سريفة من مادتي الفايبر جلاس والحديد المجلفن غير القابلة للصدأ بسمات مختلفة تصل إلى (٥,٠٠٠) م^٣، وحيث أوصت وكالة الوزارة لشؤون المياه وفكرة المياه الوطنية بأن هذه التقنية الجديدة تخفض التكلفة بنسبة تزيد عن (٢٥%) عن الطريقة التقليدية للخزانات، سعة (٥٠٠٠) م^٣.

أمل الإطلاع، والتوجيه حيال اعتماد منتج المؤسسة المشار إليها أعلاه بمشاريع الوزارة للخزانات سعة (٥٠٠) م^٣ فقط، واستخدامها عند الحاجة في المشاريع التي تتلام ظروفها ومواقعها مع مواصفات هذه الخزانات.

مع أطيب تحياتي ، ،


عبدالله بن عبدالعزيز آلراجحي
وزير المياه والكهرباء

صورة لمدير مؤسسة (بيبيكو) للخزانات المائية.

الرقم : ٢١١٢٥ / التاريخ : ١٤٣٣ / ١٢ / ٢٠١٤ / التوقيع : _____

الرياض - طريق الملك فهد - الرياض 11177 - هاتف الاتصالات الإدارية : ٢٠١٦١٤١ - فاكس : ٢٠١٦١٤١
Riyadh - King Fahd Road - Riyadh 11233 - Communications Dept. Tel. : 2052748 - Fax : 2052748

CARSO - LABORATOIRE SANTÉ ENVIRONNEMENT HYGIÈNE DE LYON
Laboratoire Agré pour les analyses d'eaux par le Ministère de la Santé

Laboratoire habilité par le Ministère chargé de la santé en application de l'article R°1321-62 du code de la santé publique

ATTESTATION DE CONFORMITÉ SANITAIRE
Certificate of sanitary conformity

Conformément à l'article du 29 mai 1997 modifié et à la circulaire du Ministère de la Santé
Direction Générale de la Santé DGS/SDTA N° 571 du 25 Novembre 2002

Coordonnées du demandeur d'ACS / Contact details of the ACS owner :

PIPECO TANKS MALAYSIA SDN BHD
Lot 3, Lorong 2/1,
Solok Sultan Hishammuddin 1,
Kawasan Perusahaan Selat Kelang Utara,
42000 Pelabuhan Klang,
Selangor Darul Ehsan, Malaysia

Nom de l'accessoire représentatif / Reference of the representative accessory :
Réservoir modulaire PIPECO TANKS EUROPE / PIPECO TANKS EUROPE Modular tank

N° de dossier attribué par le laboratoire habilité / File reference : **15 ACC LY 670**

Date de réalisation des essais d'inertie selon la norme XP P41-280 : du 27 Octobre au 12 Novembre 2015
Tests date (according to the standard XP P 41-280) : from October 27 to November 12, 2015


Commentaires / Comments : les résultats des essais sont conformes aux exigences de la circulaire DGS/SDTA N°571 du 25 Novembre 2002. The results are in accordance with the requirements of the circular DGS/SDTA N°571 dated November 25, 2002

Famille d'accessoires couverte par l'ACS / Accessoires' family covered by this certificate :
Réservoirs modulaires en PRV / FRV modular tanks

Références / References (3 references) :

PIPECO TANKS EUROPE
PIPECO TANKS AFRICA
PIPECO TANKS MALAYSIA SDN BHD

Attestation délivrée par / Certificate issued by :
Christelle AUTUGELLE
Responsable MCDE
CARSO - L.S.E.H.L.

Signature : 

Date de délivrance / Date of issue : 16 Décembre 2015
Date of expiration / Expiry date : 16 Décembre 2020

Commentaires / Comments /
F_162000A_15082014.MLN

Société par action simplifiée au capital de 2 500 000,00€ - RCS Lyon B 418 545 515 - SIRET 439 545 510002 - APE 730 B - N° TVA : FR 21 418 545 515
Sdige Social : 4, avenue Jean Moulin - CS 30228 - F-69603 VENNISIEUX cedex - Tél : (03) 64 72 76 16 - Fax : (03) 64 78 12 11

Lloyd's Register
LRQA

CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

Pipeco Sdn. Bhd. (128355-X)
Pipeco FRP Tanks Sdn. Bhd. (474871-M)
Lot 3, Lorong 2/1, Solok Hishammuddin 1
Kawasan Perusahaan Selat Klang Utara
42000 Pelabuhan Klang, Selangor
Malaysia

has been approved by Lloyd's Register Quality Assurance to the following Quality Management System Standards:

ISO 9001:2008
EN ISO 9001:2008
BS EN ISO 9001:2008
MS ISO 9001:2008

The Quality Management System is applicable to:
Manufacture of fibreglass reinforced polyester (FRP/GRP) panels/insulated panels for water storage tanks.

Approval Certificate No: KLR 6002636
Original Approval: 01 January 2008
Current Certificate: 05 January 2014
Certificate Expiry: 31 December 2016




Issued by Lloyd's Register of Shipping (M) Bhd
for and on behalf of Lloyd's Register Quality Assurance Ltd.



Suite 27-04, Level 27, Menara Tan & Tan, 207, Jin Tun Raak, 50400 Kuala Lumpur, Malaysia. Registered Number 111208-K
For and on behalf of 31 Fenchurch Street, London EC3M 4BS, United Kingdom
The approval is not valid in accordance with the ISO standard and certification procedure and is not valid in the USA.
The use of the USA Accreditation Mark includes Accreditation in respect of those activities covered by the Accreditation Certificate Number 301

ZERTIFIKAT CERTIFICATE CERTIFICADO CERTIFICAT



PSB Singapore

TEST CERTIFICATE

This Certificate is issued to
Pipeco FRP Tanks Sdn Bhd
 Lot 3, Lorong 2/1, Solok Hishamuddin,
 Kawasan Perusahaan Selat Kelang Utara,
 42000 Pelabuhan Kelang,
 Selangor Darul Ehsan, Malaysia

FOR
 Product: FRP/GRP Water Tank
 Brand/Model: Pipeco
 Detail: -
 Specification: SS245 : 1995 "Specification for Glass Reinforced Polyester Sectional Water Tanks".
 Test Report: 7191010268-MEC13-DL, 7191010262-MEC11/01-KSY, S08CHM05252-LYP, S09MECO2966/1/OKB, S09MECO2966/2-LYP, S09MECO2966-3A-EO, S09MECO2966-3B-EO, 7191100023-MEC15/02-LAS & OM00511


Date of Test Report : 13 Jun 2013, 18 Jul 2011, 05 Dec 2008, 09 Sep 2009, 14 Jul 2009, 15 Jul 2009, 15 Jul 2009, 23 Feb 2015 & 28 Aug 2009

Summary
 A sample of product submitted was tested and was found to comply with the test requirements of the above standard(s).

Vice President (MCC)
 TUV SUD P&S Pte Ltd
 Certificate No: 02233 Date of Original Issue: 18 Sep 2009 Date of Last Revision: 12 Mar 2015 Date of Expiry: 17 Sep 2017

This Certificate is part of a full report and should be read in conjunction with it. This Certificate remains the property of TUV SUD P&S Pte Ltd and shall be returned upon request. The use of this Certificate is subjected to the terms and conditions of the Test Certification Scheme.
 Note: This Certificate is issued pursuant to the terms set out overleaf.

TUV SUD P&S Pte Ltd • 1 Science Park Drive • Singapore 118221 TUV®



SURUHANJAYA PERKHIDMATAN AIR NEGARA
 (NATIONAL WATER SERVICES COMMISSION)
 (Arahan Bersehad Arahan Selat)
 Prima Avenue 7, Blok 2510,
 Jalan Tekhnokrat 6, 63000 Cyberjaya,
 SELANGOR DARUL EHSAN

Telephone : +603-83179333/4/5
 Faks : +603-83179339/6
 Laman Web : www.span.gov.my

Ruj. Tuan :
 Ruj. Kami : SPAN/PI/300-10/213/AW-2(/)
 Tarikh : 12 May 2015

PIPECO TANKS MALAYSIA SDN BHD
 LOT 3, LORONG 2/1, SOLOK HISHAMUDDIN 1,
 KAW PERUSAHAAN SELAT KELANG UTARA,
 PELABUHAN KLANG,
 42000 KLANG,
 SELANGOR DARUL EHSAN
 (U/P: PUAN NOR AZLINA BINTI HAMZAH)

No. Tel : 60331763318
 No. Faks: 60331760318

Tuan,
PERAKUAN PENYENARAAN PEMBEKAL UNTUK PRODUK-PRODUK KEKUNAAN INDUSTRI PERKHIDMATAN AIR

Perkara di atas adalah dirujuk.
 2. Sukacita dimaklumkan bahawa syarikat tuan telah disenaraikan sebagai pembekal produk-produk kegunaan industri perkhidmatan air seperti berikut:

Bil	No. Penyeranaan SPAN	Kegunaan	Produk	Jenama	Maklumat Siji Barangan		
					No. Siji	Standard	Tempoh Sah Laku
1	SPAN/PI/300-10/213/AW-2	Sistem Bekalan Air	STORAGE CISTERNA / TANK - FRP WATER TANK - SECTIONAL	PIPECO	SIRIM PC001657 Enjoljaga - PIPECO TANKS MALAYSIA SDN BHD	MS 1300 : 2010	03 Apr 2016


3. Penyeranaan adalah tertakluk sepenuhnya mengikut skop dan tempoh sahlaku siji barangan yang dikemukakan kepada SPAN. Penyeranaan ini juga tertakluk kepada syarat-syarat khusus yang telah ditetapkan seperti yang dinyatakan di dalam lampiran sekiranya ada [Ada / Tidak].

4. Syarikat yang memasuki penyeranaan ini adalah bertanggungjawab untuk memastikan bahawa siji barangan adalah sah (valid) pada sepanjang penyeranaan dan mengemaskini maklumat siji barangan kepada SPAN setiap kali pembaharuan siji dibuat atau sekiranya terdapat perubahan pada skop penyeranaan.

TEST REPORT: S08CHM05252-LYP

Date: 05 DEC 2008 Tel: +65 68851346 Fax: +65 67732912
 Client's Ref: Email: Yin-Pheng LEONG@tuv-sud-psb.sg

Note: This report is issued subject to TUV SUD P&S's "Terms and Conditions Governing Technical Services". The terms and conditions governing the issue of this report are set out as attached within this report.

 PSB Singapore

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SUBJECT
 Testing of "PIPECO" GRP/FRP Water Storage Sectional Tank Panel for Use in Contact with Water Intended for Human Consumption with Regard to their Effect on the Quality of the Water.

CLIENT
 Pipeco International Pte Ltd
 267 Kaki Bukit Avenue 1
 Shun Li Industrial Park
 Singapore 416068
 Attn: Mr Freddy Lim

SAMPLE SUBMISSION DATE / TEST DATE
 29 Sep 2008 / 30 Sep 2008

DESCRIPTION OF SAMPLE
 12 number of "PIPECO" GRP/FRP Water Storage Sectional Tank panel samples

The sample reported herein has been prepared in accordance with the ISO/IEC 17025:2005 "Requirements for the competence of testing laboratories" and is issued in accordance with the ISO/IEC 17025:2005 "Requirements for the competence of testing laboratories" and is issued in accordance with the ISO/IEC 17025:2005 "Requirements for the competence of testing laboratories".

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 Phone: +65-6885 1333 Fax: +65-6773 8670 Email: testing@tuv-sud-psb.sg www.tuv-sud-psb.sg Co. Reg: 199502676N

Regional Head Office: TUV SUD Asia Pacific Pte. Ltd. 3 Science Park Drive, #04-01/02 The Forum, Singapore 118221
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Page 1 of 6

Test Report No. S09MECO2272/DL
 dated 16 Apr 2009

Note: This report is issued subject to TUV SUD P&S's "Terms and Conditions Governing Technical Services". The terms and conditions governing the issue of this report are set out as attached within this report.

SUBJECT: Hydrostatic test of "PIPECO" GRP/FRP water tank panel

TESTED FOR: PIPECO SDN BHD
 NO. 9 Jalan Sungai Kayu Ara 32/37
 Taman Berjaya, Seksyen 32
 40460 Shah Alam, Selangor Darul Ehsan Malaysia
 Attn: Mr Tan Eng Huat

TEST METHOD: In accordance with SS 245: 1995 Specification for Glass Reinforced Polyester Sectional Water Tank - Clause 10.1.3 Hydrostatic Test

SAMPLES DESCRIPTION: 1 unit of 1 meter (width) X 1 meter (width) "PIPECO" GRP/FRP panel was received on 13 Apr 2009 for hydrostatic test.

WITNESS PARTIES:

Name	Company	Signature
M/Ms Seah Hong Boy	Asia Poly Engineering P.L	[Signature]
M/Ms James Watt	Pipeco International P.L	[Signature]
M/Ms Jugar Lou	Sahelita Engineering P.L	[Signature]

David Li Associate Engineer
 Ong Khay Beng Engineer Building and Acoustic Mechanical Centre

Laboratory: TUV SUD P&S Pte. Ltd. Testing Services No. 1 Science Park Drive Singapore 118221
 Phone: +65-6885 1333 Fax: +65-6773 8670 Email: testing@tuv-sud-psb.sg www.tuv-sud-psb.sg Co. Reg: 199502676N

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Page 1 of 3

Test Report No. S09MECO5677(QM-0909-015)/KSY
 dated 27 SEP 2009

Note: This report is issued subject to TUV SUD P&S's "Terms and Conditions Governing Technical Services". The terms and conditions governing the issue of this report are set out as attached within this report.

SUBJECT: Permanent Compressive Strain Test of Foam Material

TESTED FOR: Pipeco FRP Tanks Sdn Bhd
 No. 9 Jalan Sungai Kayu Ara 32/37
 Taman Bahagia Seksyen 32
 40460 Shah Alam Selangor Malaysia
 Attn: Mr Tan Eng Huat / Mr Edmund Loh

SAMPLES DESCRIPTION: One roll of foam material as shown in Figure 1, with nominal width of 50 mm x 4 mm thickness was received on 22 September 2009 for testing.

TEST METHOD: SS 245 : 1995 Specification for Glass Reinforced Polyester Sectional Water Tanks
 Nominal specimen dimensions : 50 mm x 50 mm x 24 mm
 Test condition : 23 ± 2 °C / 22 h
 No. of determinations : 3

TEST RESULT:

Characteristic	Result	SS 245 : 1995 Requirement
Permanent Strain in Compression, average	3%	4% (max.)

Note: The permanent compressive strain of the test specimens complied with SS245:1995 specification.

Kong Siew Yong Associate Engineer
 Li Xiang Engineer Polymer Products Mechanical Centre

Laboratory: TUV SUD P&S Pte. Ltd. Testing Services No. 1 Science Park Drive Singapore 118221
 Phone: +65-6885 1333 Fax: +65-6773 8670 Email: testing@tuv-sud-psb.sg www.tuv-sud-psb.sg Co. Reg: 199502676N

Regional Head Office: TUV SUD Asia Pacific Pte. Ltd. 3 Science Park Drive, #04-01/02 The Forum, Singapore 118221
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Page 1 of 3

PROJECT REFERENCES

Few projects for the year of 2015 by branches office and distributors

Pipeco Tanks Trading - Dubai

17(8.5+8.5)m x 3m x 4m (H) - Ins
24(12+12)m x 24m x 2.5m (H) - Ins
13.5m x 10m x 3m (H) - Ins
32m x 32m x 4m (H) - Ins
10m x 10m x 2m (H) - Std
32m x 32m x 4m (H) - Ext Braced - Ins
10(5+5)m x 10m x 3m (H) - Std
32m x 32m x 4m (H) - Tank C - Ins
12m x 12m x 3m (H) - Std
11m x 10m x 3m (H) - Std
10(5+5)m x 6m x 1m (H) - Ins
13m x 3m x 2.5m (H) - Ins
10(2+3+3+2)m x 7m x 3m (H) - Std
8m x 6m x 1.5m (H) - Ins
13m x 10m x 3.5m (H) - Ins
13m x 10m x 3.5m (H) - Ins
10(5+5)m x 3m x 2.5m(H) - Ins
16m x 10m x 3m (H) - Ins
12m x 12m x 3m (H) - Std
11m x 10m x 3m (H) - Std
11(6+5)m x 7m x 4m (H) - Std
17(9+8)m x 11m x 4m (H) - Ins
23m x 16m x 4m (H) - Ins
23m x 16m x 4m(H) External Bracing - Ins
12m x 16m x 4m(H) External Braced - Std
9m x 8.5m x 3m (H) - Std

Pipeco Bahrain W.L.L - Bahrain

6(3+3)m x 5m x 2m (H) - Std
8.5(4+4.5)m x 5m x 1.5m (H) - Ins
23(11.5+11.5)m x 5m x 1.5m (H) - Std
5m x 4m x 2m (H) - Ins
6(3+3)m x 4m x 1.5m (H) - Ins

Pipeco Water Tank EST - Saudi Arabia

10m x 6m x 3.5m (H) - Ins
14(7+7)m x 7m x 2.5m (H) - Ins
14(7+7)m x 5.5m x 2.5m (H) - Ins
10m x 5m x 3m (H) - Std
10(5+5)m x 10m x 3m (H) - Ins
11.5m x 11.5m x 4m (H) - Std
10m x 3.5m x 3m (H) - Ins
7m x 5m x 3m (H) - Ins

Pipeco India Pvt. Ltd - India

7m x 5m x 4.5m (H) - Std
2m x 4m x 4m (H) - Std

Pipeco Tanks Co. Ltd (Taiwan)

9(4+5)m x 3m x 2m (H)-
with 3m x 2m(H) Full partition - Std
2m x 3m x 2.5m (H) - Std

Al-Ansari Trading Ent.LLC - Oman

12m x 3m x 3m (H) - Ins
14(7+7)m x 10m x 3m (H) - Ins
12m x 6m x 1.5m (H) - Ins
12.5m x 4m x 2m (H) - Ins
10m x 2m x 2m (H) - Ins
16m x 16m x 4m (H) - Std
16m x 16m x 4m (H) - Std
13m x 12(6+6)m x 3m (H) - Ins
15m x 15m x 4m (H) Ext Braced - Std
13(6.5+6.5)m x 5m x 4m (H)
12m x 12m x 4m(H) - Ins
16m x 16m x 4m(H) External Bracing
16m x 16m x 4m (H) - Std
12m x 12m x 4m (H) - Ins
16m x 16m x 4m (H) - Std
13m x 4.5m x 2m (H) - Std
12m x 10m x 3m(H) - Ins
12(6+6)m x 7.5m x 4m(H) - Std
15(10+5)m x 5m x 4m(H) - Ins
10m x 12m x 3m (H) - Ins
10m x 10m x 4m (H) - Ins
10m x 12m x 3m(H) - Ins
10(7+3)m x 4m x 1m(H) - Ins
10.5m x 3m x 2.5m(H) - Std
13m x 10m x 3m(H) - Ins
10m x 20(10+10)m x 4m (H) with Top Sump - Ins

R.P Leisk Pty Ltd - Jakarta

9m x 3m x 3m (H) - Std
5m x 2.5m x 2m (H) - Std

Flowmetric Industrial Sales Inc. - Philippines

10(5+5)m x 5m x 2.5m (H) - Std
5m x 2m x 3m (H) - Std
8(4+4)m x 7m x 2.5m (H) - Std
7m x 4m x 4m(H) - Std
10m x 2m x 4m(H) - Std
6m x 3m x 2m (H) - Std

Han Sein Htant - Myanmar

8m x 3m x 3m(H) - Std
14(3+11)m x 4m x 3m(H) - Std
4m x 3m x 2m (H) - Std
5m x 4m x 2m (H) - Std
4m x 4m x 3m(H) - Std
5m x 5m x 2m(H) - Std
6m x 5m x 3m(H) - Std
8m x 2m x 2m(H) - Std
8m x 4m x 2m (H) - Std
6m x 4m x 2m(H) - Std
5m x 3m x 2m(H) - Std

Sources For Eng. - Jordan

5m x 4m x 2m (H) - Std
5m x 2m x 1m (H) - Ins
4.5m x 3m x 2.5m (H) - Std

Luong Hai Hung Co. Ltd - Vietnam

7m x 5m x 3m (H) - Std
6m x 3m x 2m (H) - Std
9m x 6.5m x 3m (H) - Std
6m x 3m x 2m (H) - Std
6m x 5m x 2.5m (H) - Std
8m x 3m x 2m (H) - Std
Odd Shape (12m x 3.5m x 3m(H))
+ (6m x 5m x 3m(H) - Std
6m x 5m x 2.5m(H) - Std
5m x 4m x 4m(H) - Std

Tozen (H.K) Limited - Hong Kong

6m x 4m x 3m (H) - Std
6m x 4m x 3m (H) - Std
(45+9m²) + Top Sump - Std
7m x 6m x 3m (H) - Std



Rafal Tower, Highest Tower in Riyadh, Saudi Arabia



Broome Hospital, Australia



Philippines, Union Ajinomoto Makati City



West Africa



U.A.E

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