

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Plastic Pipes, Thermoplastic**

with type designation(s)

**uPVC Pressure and DWV Sewer Pipes and Fittings, Solvent Cement Jointing (SCJ)**

Issued to

**Vinidex Pty. Ltd.  
O'Connor, WA, Australia**

is found to comply with

**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems****DNV GL class programme DNVGL-CP-0072 – Type approval – Thermoplastic piping systems****Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2020-03-10**This Certificate is valid until **2025-03-09**.for **DNV GL**DNV GL local station: **Australia FIS/CMC**Approval Engineer: **Ana Cristina Do Carmo Insfran****Olaf Drews  
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



## Product description

The PVC (Polyvinylchlorid) products at Vinidex are formed from raw PVC powder by a process of heat and pressure. The two major process used in manufacture are extrusion for pipe and injection moulding for fittings.

### Pipe: Extrusion of PVC-U Vinidex

PVC pipe pressure are processed by extrusion where involves highly volume developed scientific methods requiring precise control over process variables.

### Fittings: Injection moulding of PVC-U Vinidex

PVC fittings are manufactured by high-pressure injection moulding. In contrast to continuous extrusion, moulding is a repetitive cyclic process, where a "shot" of material is delivered to a mould in each cycle.

PVC-U: PN12 and PN18 Pipes and Fittings

Joining methods pipes and fittings solvent cementing.

### Pressure Pipes:

Nominal Sizes (mm): 20, 25, 40, 50, 80, 150

### Drain Waste & Vent (DWV) pipes:

Nominal Sizes (mm): 40, 50, 65, 80, 100, 100 (SC), 150

### Fittings:

Caps, tees, elbows 45°, 90°, sockets and flange adaptors.

### Production places: Vinidex Pty. Ltd.

- Perth- Sainsbury Rd, O'Connor WA 6163
- Brisbane - 224 Musgrave Rd - Coopers Plains Qld 4108
- Sydney Manufacturing - 254 Woodpark Road Smithfield NSW 2164
- Melbourne Manufacturing -231-245 St Albans Road Sunshine VIC 3020

## Responsibility

The Vinidey Pty Limited, Perth, Western Australia takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

## Application/Limitation

The PVC-U piping system is type approved for application in sanitary hot and cold water, recycled water, and sewage piping systems.

The Drain Waste and Vent (DWV) piping systems is type approved for sanitary drainage- and sewage piping system.

Reference DNV GL Rules Pt.4, Ch.6, Section 2 – 1.7 Plastic pipes "Table 1- Fire endurance requirements matrix". Approved installation locations where "0" is specified, appropriate footnotes are to be observed. Not approved for installation locations where "NA" or "X" is indicated.

## Limitation

The PVC-U piping system is not tested with regard to external pressure resistance capability.

Permissible service pressure and temperature limits:

| Material | Nominal pressure PN<br>[bar] | Permissible service pressure and<br>temperature limits |      |      |
|----------|------------------------------|--------------------------------------------------------|------|------|
|          |                              | 30°C                                                   | 40°C | 50°C |
| PVC      | 12                           | 9                                                      | 7.2  | -    |
|          | 18                           | 13.5                                                   | 10.1 | 4.5  |

## Extent of Type Tests applicable to piping system dependent on application

### Fire endurance Level

The piping system as specified in this certificate is not tested with respect to Fire Endurance characteristics.

### Flame spread

Surface flame spread characteristics is confirmed by ASTM D635-10:HB.

### Smoke and toxicity

The piping systems is not tested with respect to capability of producing excessive quantities of smoke and toxic products as defined in IMO FTP Code, Annex 1: Part 2.

### Electrical conductivity

Not applicable.

### Passenger vessels

For application on passenger vessels additional requirements specified in the Rules and Regulations of the appropriate flag state authority may have to be observed.

## Installation

The Vinidex PVC-U piping system is not approved for installations within tanks.

The installation of the piping systems is to be carried out in accordance with the instructions of the manufacturer and installations requirements of the IMO resolution respectively.

In addition the installation requirements specific to the ship as specified by the ship yard as well as DNVGL Rules Pt.4, Ch.6, Section 10 are to be observed.

The application of the Vinidex PVC-U piping system outside of the approved range of application is subject to special approval by DNV GL in each individual case.

The PVC-U piping system is not approved for installation in gas hazardous area.

## Bulkhead penetration

When plastic pipes pass through watertight bulkheads or decks, the watertight integrity of the bulkhead or deck is to be maintained by a metallic shut-off valve fitted at the bulkhead or deck.

The operation of this valve shall be provided from above the freeboard deck.

Refer to DNV GL Rules Pt.4, Ch.6 Section 3 – 1.4 Fittings on watertight bulkheads.

## **Type Approval documentation**

### **Tests carried out**

### **Marking of product**

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of the product is to enable traceability to this Type Approval Certificate.

- Manufacture's name or logo
- Product code
- Type and size of the product
- Pressure rating or class identification if applicable
- Australian Standard Number
- Certification License
- Raw material

### **Periodical assessment**

A condition for retention of the type approval certificate in its validity period is that periodical assessments are successfully carried out. The objective of the periodical assessment is to verify that the conditions for the type approval have not been altered. Regulations for the periodical assessment of the type approval certificate are to be found in the DNV GL Class Programme CP-0338.

It is further to be noted that the Society shall be informed of any:

Modifications to the product which are liable to affect its characteristics and functions, as originally specified and tested;

Shifting of the production site and additional production site.

If such notifications are not made, the validity of the type approval certificate terminates.

END OF CERTIFICATE