



Type Approval Certificate

NIFO-1310.2 | Revision 5

Title: (Detail of the Item or System)	StormFLO Civil SN8 Polypropylene Plastic Pipe	TA Level.:	Preliminary <input type="checkbox"/>
			Provisional <input type="checkbox"/>
			Full <input checked="" type="checkbox"/>
		TA No.:	VLP343
Supplier:	Vinidex Pty Ltd	Date:	31/05/2023
Suppliers Address:	Level 4, 26 College St Darlinghurst NSW 2010	Supplier Phone:	131169
		Supplier Email:	ipaterson@vinidex.com.au
Manufacturer:		Model No.:	29520, 29521, 29522, 29523, 29524, 29525

(Use in conjunction with NIPR-1310-Type Approval – V/Line Asset Management).

1 Executive Summary

1.1 Background

The current Djilang Alliance design details significant reinforced concrete drainage pipe. Due to long lead-in times of 30+ weeks to manufacture pre-cast concrete product the project is now seeking alternative solutions which will improve construction procurement & overall project program delivery. The proposed StormFLO Civil pipe has been requested as an alternative option.

1.2 Precedents

SAI Global has granted to Vinidex Pty Ltd certifying that the Polyethylene pipes (Corrugated Type B- ID series) and fittings are manufactured to AS/NZS 5065:2005. In addition to complying with Australian Standards, StormFLO Civil has been tested to and meet or exceed the relevant US AASHTO Standards for corrugated polyethylene pipe.

1.3 Benefits to V/Line

The product provides an alternative to non-recycled plastics, steel, and concrete pipes for stormwater drainage in non-critical areas by utilising plastic waste material recycled into pipes. The StormFLO pipe has improved structural integrity and easier jointing performance than previous V/Line Type Approved recycled plastic pipe products. The pipes provide a use for recycled Polyethylene plastic, meeting V/Line obligations to Victoria's recycled first policy.

1.4 Supporting Documentation

The following supporting documentation has been considered in the review of this application and electronic copies are stored on the V/Line intranet version of the Type Approval register.

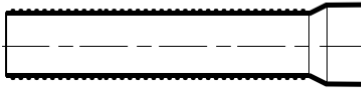
- Standardsmark Compliance Licence by SAI Global
- Quality Accreditation for compliance to ISO 9001:2015
- Conformance Certificate to AS/NZS 5065:2005 (R2017) and ISO 9001:2015
- Full Type Approval Certificate (#TA00847) by Metro Trains Melbourne (MTM)
- AASHTO Testing reports
- StormFLO Technical Datasheets
- StormFLO comparison datasheets with Steel Reinforced Concrete Pipes
- StormFLO Product Catalogues and Installation Guides
- StormPRO and StormFLO Presentation July 2022



2 Full Item Description

StormFLO Civil SN8 Polyethylene Pipes are supplied in nominal 6-meter lengths with diameters and dimensions as tabulated below.

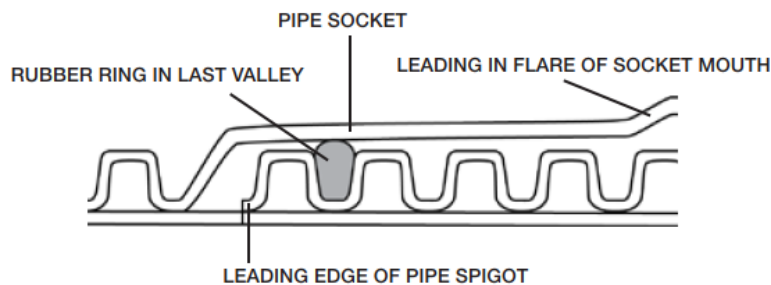
StormFLO® Civil SN 8 Pipe Range



Vinidex Code	Nominal Diameter (mm)	Effective Length (m)	Overall Length (m)	Approximate Pipe Mass (kg/length)	Number of Pipes per Crate	Semi Truck Load	B-Double Truck Load
29520	225	5.96m	6.10m	19	12	144	216
29521	300	5.88m	6.05m	26	6	72	108
29522	375	5.79m	6.02m	47	4 or 6	60	90
29523	450	5.78m	6.00m	73	2	40	60
29524	525	5.69m	5.96m	100	2	32	48
29525	600	5.56m	5.90m	113	3	18	27

Note: Rubber Rings supplied separately with all pipes and fittings. Lubricants are also supplied with pipes. Additional rubber rings may be ordered if required.

DN225 to 600



Further details are provided by Vinidex pty Ltd in the referenced supporting documents.

3 Scope of this Approval

This approval covers the use of StormFLO Civil SN8 pipes, compliant with the terms and conditions of the Regional Infrastructure Lease and requirements of the V/Line Safety Management System for operation on the V/Line network in accordance with the scope and application set of in this certificate.

4 Qualifications and Conditions

This full Type Approval is granted on conditions of:

- Use as stormwater or wastewater pipes for low pressure water and effluent
- The pipes must not be used under locations that are subject to dynamic railway surcharge loads. For avoidance of doubt, the pipes may be used:
 - At any depth provided that no part of the pipe is closer than 2.6 m horizontally from the centerline of the closest railway line.
 - At any location closer to 2.6 m from the track centerline provided that no part of the pipe lays within a loading zone defined by the ratio of 1H:2V (H=Horizontal, V=Vertical) extending from the bottom of the adjacent track sleeper.
- The pipes must not be used under surcharge loading from roads, buildings, structures or facilities unless a comprehensive review or design ascertains the suitability for such use in accordance with the requirements of V/Line procedure NIPR-2695 "Design management"



4. The pipes must not be used in locations or with liquids subject to temperatures outside of the range of 0°C to 80°C.
5. The pipes must not be used in conditions where there is a risk of exposure to chemical oxidants (including in aqueous solution) or hydrocarbons.
6. Where the pipes are proposed for use with effluent or there is a potential for chemicals to be present in diluted (aqueous) form, the exposure to chemicals and the impact of the chemicals to the design life of the pipes must be assessed, and the use of the pipe approved by the V/line Chief Engineer.
7. Adherence to StormFLO pipes prescribed installation methodology described in the StormFLO Pipes supporting documents (refer to Section 1.4 of the Type Approval Certificate), with emphasis on:
 - o Compaction
 - o Backfill, and
 - o Haunch support
8. The StormFLO Pipes are to be installed, commissioned, and used in order of precedence, in accordance with the V/Line Safety Management System (Including Standards, procedures, and guidelines), followed thereafter by the designer's and manufacturer's documentation
9. Locations where StormFLO Pipes are utilized shall be assessed for future potential for railway, roadway or facilities expansion and the resulting impacts associated with compliance with conditions 2 and 3 above
10. This approval is for the pipes only. Special fittings and fixtures associated with the StormFLO system are not included in this Type Approval.

5 Certification

5.1 Authorization

Recommended			
Type Approval Facilitator	Deepti Wagle <small>(Print Name)</small>	 <small>(Signature)</small>	 <small>(Date)</small>
Endorsed			
Systems and Safe Working Manager	 <small>(Print Name)</small>	 <small>(Signature)</small>	 <small>(Date)</small>
Relevant Discipline Engineer Manager	 <small>(Print Name)</small>	 <small>(Signature)</small>	 <small>(Date)</small>
Chief Engineer	 <small>(Print Name)</small>	 <small>(Signature)</small>	 <small>(Date)</small>
Approved			
Executive Director NDAM	 <small>(Print Name)</small>	 <small>(Signature)</small>	 <small>(Date)</small>

5.2 Applicant's Acknowledgement

(Applicant is to sign and return to the designated V/Line Type Approval Facilitator).

Applicant's Agent or Representative	 <small>(Print Name)</small>	 <small>(Signature)</small>	 <small>(Date)</small>
	 <small>(Print Position Title)</small>		
	 <small>(Print Business Name)</small>		