

## **1. SCOPE**

This schedule specifies characteristics for the Tubosider UK Ltd. (Tubosider) Singlestore galvanised corrugated steel pipe. The system can be used for a variety of applications where storage of surface water is required.

The following are excluded from the scope of the assessment schedule:

- Pressurised storage applications.
- Using any jointing mechanism not specified, supplied and declared by Tubosider.

## **2. PRODUCT DESCRIPTION**

### **2.1 Introduction**

Pipe lengths are factory manufactured from galvanised corrugated steel coil strips that are spirally wound to the required diameter with a product diameter range of 300mm to 3600mm and lengths up to 14m. Longer lengths can be produced but are dependent on site conditions and transportation limitations.

The pipes are manufactured in two versions relating to the dimensions of the corrugation.

The Singlestore 68 has a diameter range of 300mm to 1200mm, with a corrugated dimension of 68mm wide by 13mm deep. The thickness of the steel can range between 1.25mm to 3.5mm dependent upon site loadings.

The Singlestore 125 has a diameter range of 1100mm to 3600mm, with a corrugated dimension of 125mm wide by 25mm deep. The thickness of the steel can range between 1.5mm to 4.0mm dependent upon site loadings.

Pipe lengths are jointed by a Tubosider supplied coupler that interlinks with the

corrugated outer wall of the pipe. The interlinking of the corrugation of the pipe and coupler minimises any misalignment or deflection of the joint. For larger diameters the coupler may consist of two, three or four sections.

Special sections such as bends and manifolds can be fabricated on an individual design basis.

### **2.2 Relevant Standards**

At present there is no British or European product standard for galvanised corrugated steel pipe.

### **2.3 Approval History**

This is the first re-approval of the Tubosider Singlestore galvanised corrugated steel pipe. The original approval was:

- PT/350/0814 (August 2014).

This approval supersedes previous issues.

## **3. REQUIREMENTS AND TESTING**

### **3.1 Product Design**

Structural design is carried out by reference to the following standards:

- CD 375 Design of Corrugated Steel Buried Structures<sup>(1)</sup>.
- Manual of Contract documents for highway works volumes 1 and 2<sup>(2)</sup>.

There are two elements to the design:

- Structural design to resist internal and external loading that could be applied to the structure.
- The configuration of the structure shall meet the functional requirement.

**Assessment Schedule for the Singlestore galvanised corrugated steel pipe for gravity surface water attenuation tanks as manufactured by Tubosider UK Ltd.**



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Tubosider provide the optimum design based upon the clients brief with consideration to:

- Required storage capacity.
- Inlet, discharge levels.
- Site footprint with consideration to installation.
- Live, static and hydrostatic loading of the structure.

### 3.2 Requirements

Product requirements are specified in the following documents:

- CESWI 7<sup>th</sup> Edition<sup>(3)</sup>.
- Sewer for Adoption 7 [for Wales]<sup>(4)</sup>.
- Sewers for Scotland<sup>(5)</sup>.
- Sewers for Adoption, Northern Ireland<sup>(6)</sup>.
- Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England ("the Code")<sup>(7)</sup>.

### 3.3 Type Testing

Requirement for leak-tightness of the structure and pipe connectivity

Pressure testing shall be undertaken in accordance with the requirements of Sewers for Adoption (7th Edition) clause E7.7.

### 3.4 Materials

Galvanised steel coil pipe material shall meet the requirements of BS EN 10143:2006<sup>(8)</sup>.

EPDM joint sealing material shall meet the requirements of BS EN 681-1:1996<sup>(9)</sup>.

### 3.5 Environmental Impact

The potential for environmental impact from the materials shall be assessed by a 6 day soak leaching test in accordance with the Directive 2000/60/EC<sup>(10)</sup>.

### 3.6 Manufacture

To ensure the quality and performance of the Tubosider Singlestore galvanised corrugated steel pipe the manufacturing process shall include appropriate systems for:

- Specification of component materials.
- Detailed drawings for the pipe and fitting products.
- Verification component materials received are to specification.
- Handling and storage of all component materials.
- Production of pipe lengths inclusive of corrugation, winding and joint sections.
- Fabrication of sections and quality of workmanship.

The production of Tubosider Singlestore galvanised corrugated steel pipe and related Quality Control procedures<sup>(11)</sup> shall comply with requirements to ensure the stated performance of the product is reliably achieved.

## PT/451/0819 - AS (August 2019)

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#### 3.7 Installation

When installed in accordance with the installation documentation<sup>(12)</sup>, the installation shall be practicable and suitable for conditions that could reasonably be expected on site.

#### 4. APPROVAL

The Tubosider Singlestore galvanised corrugated steel pipe has been audited and have successfully met all the requirements stated within this assessment schedule.

Signed:

A handwritten signature in black ink that reads 'A Russell'.

Valid until August 2024

7. Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England ("the Code"), Final Draft March 2019.
8. BS EN 10143:2006 Continuously hot-dip coated steel sheet and strip - Tolerances on dimensions and shape.
9. BS EN BS EN 681-1:1996.
10. Directive 2000/60/EC/ Environmental standards – Environmental Quality Standard for Zinc.
11. Tubosider Production instructions and QC documentation.
12. Tubosider Handling and installation guidance.

#### 5. REFERENCES

1. CD 375 Design of Corrugated Steel Buried Structures (formerly BD 12/01), Revision 0, August 2018.
2. Manual of Contract documents for highway works, Volumes 1 and 2, July update 2019, <http://www.standardsforhighways.co.uk/ha/standards/mchw/index.htm>
3. Civil Engineering Specification for the Water Industry, 7<sup>th</sup> Edition, (CESWI), March 2011.
4. Sewers for Adoption 7<sup>th</sup> Edition. 2012.
5. Sewers for Scotland, Version 4.0 – October 2018.
6. Sewers for Adoption, Northern Ireland, 2010.