

ISO 16075-3:2021 (E)

Guidelines for treated wastewater use for irrigation projects — Part 3: Components of a reuse project for irrigation

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms, definitions and abbreviated terms
3.1	Terms and definitions
3.2	Abbreviated terms
4	Storage reservoir
4.1	General
4.2	Reservoir types
4.3	Storage time
4.4	Problems and strategies
5	Additional treatment facilities
5.1	General
5.2	Filtration
5.3	Additional disinfection
6	Distribution systems
6.1	Pumping stations
6.2	Pipelines
6.3	Accessories
6.3.1	General
6.3.2	Valves
6.3.3	Blowoffs
6.3.4	Flowmeters
6.3.5	Hydrants
6.4	Resistance of irrigation devices to pH and fertilizers
6.5	Maintenance of distribution networks to prevent bacterial regrowth
6.6	Design and operation of distribution network to protect drinking water sources
6.6.1	General
6.6.2	Stipulating a protective radius
6.6.3	Principles of TWW irrigation above (underground or surface) drinking water pipelines
6.6.4	Principles of cross-connection
6.6.4.1	General
6.6.4.2	Control requirement
6.6.4.3	Control method
6.6.5	Principles of painting and marking TWW irrigation pipelines and systems
6.6.5.1	General
6.6.5.2	Examples for marking pipelines of up to 75 mm diameter
6.6.5.3	Water transmission pipeline of a diameter exceeding 75 mm
7	Irrigation systems
7.1	Classification
7.2	Pressurized irrigation systems
7.2.1	Sprinkler systems
7.2.1.1	General
7.2.1.2	Types of sprinkler

- 7.2.1.3 Pipes
- 7.2.1.4 Sprinkler head
- 7.2.2 Micro-irrigation systems
 - 7.2.2.1 General
 - 7.2.2.2 Drip irrigation equipment
 - 7.2.2.3 Micro-jet system
 - 7.2.2.3.1 General
 - 7.2.2.3.2 Micro-jets on a spike
 - 7.2.2.3.3 Upside-down micro-jets
- 7.2.3 Filtration
- 7.2.4 Automation of the irrigation
- 7.3 Preventive treatments, regular maintenance, and handling pressurized irrigation system failures subject to TWW quality
 - 7.3.1 General
 - 7.3.2 Water quality parameters required for the treatment and maintenance of irrigation systems, for micro-sprinklers and drip irrigation systems
 - 7.3.3 Equipment and treatments for micro-sprinklers and drip irrigation systems
 - 7.3.3.1 General
 - 7.3.3.2 Irrigation system treatments
 - 7.3.3.2.1 Equipment and preventative maintenance actions for different water qualities in drip irrigation systems
 - 7.3.3.2.2 Preventative and maintenance actions for different water qualities in micro-sprinkler systems
 - 7.3.3.2.3 Drip irrigation systems by water quality
 - 7.3.4 Restoring working order of an irrigation system after failure
 - 7.3.4.1 General
 - 7.3.4.2 Severe failure

Annex A (informative) Guidelines for injecting chlorine into drip irrigation systems

- A.1 General
- A.2 Safety
- A.3 Materials
- A.4 Usage
 - A.4.1 Methods of application

Annex B (informative) Guidelines for acid use in drip irrigation systems

- B.1 Forbidden chemicals
- B.2 Appropriated chemicals
- B.3 Acid treatment for drip systems
 - B.3.1 Safety
 - B.3.2 Usage
 - B.3.2.1 Injecting acid into the system
 - B.3.2.2 Acid concentrations

Annex C (informative) Guidelines for injecting hydrogen peroxide into drip irrigation systems

- C.1 General
- C.2 Safety
- C.3 Physical and chemical properties
- C.4 Usage
 - C.4.1 General
 - C.4.2 Methods of application
 - C.4.3 Determining the injection point
- C.5 Treatment
- C.6 Injection times for chemical/fertigation treatment

Annex D (informative) Guidelines for sampling drip irrigation pipes

- D.1 General
- D.2 General data

Annex E (informative) Appropriated chemicals

- E.1 General
- E.2 N – Nitrogen
- E.3 P – Phosphorus
- E.4 K – Potassium

E.5 Microelements

Annex F (informative) Flushing the drip irrigation pipes

- F.1 Flushing the main sub-main and distribution lines**
- F.1.1 General**
- F.1.2 Manual flushing of main, sub-main and distribution lines**
- F.1.3 Flushing waves**
- F.1.4 Achieving the velocity of the water flowing in the pipes**
- F.2 Flushing the dripperlines**

Page count: 37