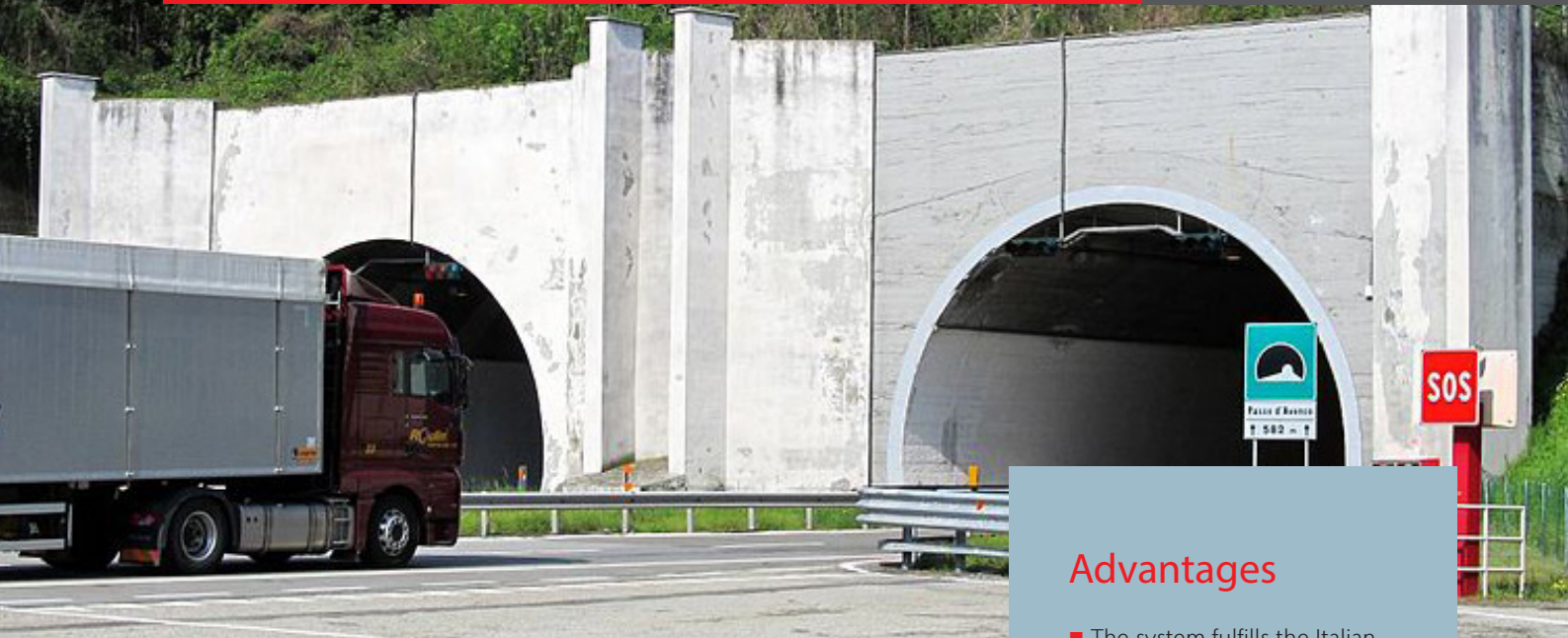


Practical experience:

## ACO Surface Water Management

Tunnels on A4/A5  
motorway (Italy) 2021



## Passo d'Avenco and Quassolo tunnels

Drainage and treatment systems to ensure the safety of human life as well as the compliance with environmental requirements.

### Advantages

- The system fulfills the Italian Decree and European Directive on safety requirement for tunnels
- Consultancy in final design of the solution
- On-Site support from ACO Technical Manager
- Customized elements produced on demand

Italian Decree D.Lgs. 5th October 2006 n.264 integrates and adopts the prescriptions of Directive 2004/54/EC of the European Parliament and of the Council of 29 April 2004 on minimum safety requirements for tunnels in the Trans-European Road Network.

The implementation of this European law prescribes that all tunnels longer than 500 meters shall be equipped with devices in case of accidental collision involving tanker trucks transporting flammable/dangerous fluids.

ACO S.p.A. served consultancy in final design and materials to n.2 tunnel on A4/45 Ivrea-Santhià motorway: Quassolo tunnel (550 m) and Passo D'Avenco tunnel (582 m). The supply consisted in almost all the drai-

nage, treatment and storage equipment needed to fulfill the European regulation in terms of tunnels safety requirements:

- 2.212 m Euroline 100 h97 mm channels for dripping waters, placed on emergency walkways
- 2.076 m of Monoblock S channel
- N. 46 AISI 430 stainless steel sump units made by ACO Turkey with custom made connection to Monoblock S via Ø160 mm ACO Pipes
- N. 2 armored concrete shafts housing three-way valves
- N. 2 Oleopator C NG 15 with Procurat alarm system
- N. 2 ACO G-H tanks in GRP, 75.000 liters each.





*In these photos: ACO G-H tank installation phases*







Above: stainless steel sump unit and Monoblock S channels near the Passo d'Avenco tunnel, waiting to be installed



Above: ACO Monoblock S channels installed in Passo d'Avenco e Quassolo tunnels

## Information at a glance

**Planner:** Ativa Engineering and Lombardi Engineering

**Contractor:** unauthorized citation

**Customer / Investor:** unauthorized citation

**Year of construction:** 2021

### ACO Product:

- ACO DRAIN Monoblock S channels
- ACO Euroline 100 h97 mm channels
- AISI 430 custom made sump units
- Armored concrete shafts housing three-way valves
- Oleopator C NG 15 with Procurat alarm system
- ACO G-H tank in Glass Reinforced Plastic (GRP)

**ACO S.p.A.**

Via Beviera n.41  
42011 Bagnolo in Piano (RE) IT  
Tel. +39 0522 958216  
Fax +39 0522 958255  
info@aco.it  
[www.aco.it](http://www.aco.it)