E54 - Irrigation using ultraviolet resistant flexible hoses

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1) What is involved ?

This is a fairly widespread and simple irrigation method that **uses hoses instead of pipes**, usually in PVC

or polyethylene (PE).

2) Who use this means and since when ?

It is above all recommended and used since these materials have been produced at industrial scale.

3) Why ?

PVC accounts for two thirds of the water distribution market in certain countries like the United States. It is particularly well suited to this purpose given that it is **lightweight, very strong and with low reactivity**.

PVC hoses can be assembled using different solvent adhesives capable of creating lasting assemblies that are virtually impermeable to leaks.

Lastly, PVC hoses are **highly resistant to ultraviolet rays** and are therefore protected from damage caused by light.

4) Who is primarily concerned ?

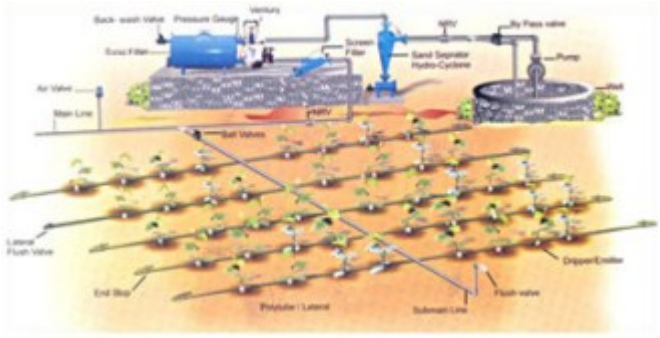
PVC hoses can be used in all types of irrigation systems.

One particular, more sophisticated but also more costly form of irrigation uses hoses of this type that are perforated at the plant positions. This is micro-irrigation and is described in sheet E 53 "Micro-irrigation".

In the next part of this sheet, we shall look especially at micro-irrigation as it is the system where PVC hoses are used most frequently.

5) What does this process involve ? How is it applied ?

It is particularly easy to understand and implement but can give rise to the use and execution of more complex irrigation systems.



Sample irrigation system

6) Main advantages and drawbacks

Advantages : lightweight, very strong and low reactivity

Drawback : metal pipes remain preferable in cases of very high resistance or when dismantling operations are necessary.

7) Cost (Execution + Maintenance)

Here are a few examples among others of PVC hose models and their prices :

Référence no.	Diameter	Length	Weight	Use	Price

E2E2191346	13 mm	15 metres	950 G	FOR DRIP INSTALLATION ANTI UV-TREATED OPAQUE	€ 8,00
E2E2191347	13 mm	50 metres	2,4 KG		€ 25,00
E2E2191348	4,6 mm	50 metres	640 G		€ 12,00
E2E2191350	4,6 mm	15 metres	220 G		€ 5,30

(Examples taken from a corporate site https://www.motoculture-marcel-var.fr/ ;)

8) Observations, recommendations and suggestions

PVC hoses have many advantages over other materials. It is a well-developed product that is easily available on the market. There will therefore be no problem in procuring supplies of PVC hoses when constructing an irrigation system or simply to convey water somewhere.

9) Where to obtain further information

- **WIKIPEDIA** Chapter specific to the various irrigation methods, available online at : http://fr.wikipedia.org/wiki/Irrigation