

Hydroponic Solutions



The Company



Producing for the **grower** for over **35** years

Ina Plastics is a manufacturing company of **plastic products** for the greenhouse industry.

Starting back in 1984 the company invested in plastics recycling and quickly turned to the production of **thermoformed pots**.

As expertise was gained, the company started **exporting** to Europe, the US and other markets.

The **range of products** was enriched with the production of propagation trays for young plants.

Thermoforming methods in combination with advanced engineering formed our Research and Development division.

For the development of new products an important role played our communication with the market. Feedback from our customers was key to our gradually increasing market share and the birth of a **new concept**.

Early 2010 the **Double Tray System** was born. DTS revolutionized young plant propagation producing strong and healthy seedlings for many nurseries around the world.

What follows after the propagation stage is transplanting in the fields or in hydroponic installations.

Ina Plastics is producing hydroponic products of high quality such as drainage **gutters** and cultivation **troughs** to be installed and accommodate these kind of cultivations.

As exports grew, entities of the company were set up in **key locations**.

Currently operations are controlled from the factory and **head office in Athens, Greece**. The company in Mexico, Ina Insumos Agrícolas deals with the central and **Latin American markets** providing support to the **US market** also.

Ina Plastics Serbia deals mainly with the **eastern European** markets.

11cm pink and **3 liter white** pots adding extra color to a nursery full of nicely grown **flower pot plants**



Location: Marigold plants, Marathon, **Athens Greece**

The **Double Tray System** spread on rails of a high tech propagating nursery.

In the season of high sun radiation, white/black top tray is used to **keep the temperature at normal levels** for the plant.



Drainage collecting **gutter**, **spacer** and **hydroponic** cultivation trough Hydroponic system for **tomato growing** installed



Location: Colima, **Mexico**

Head Office

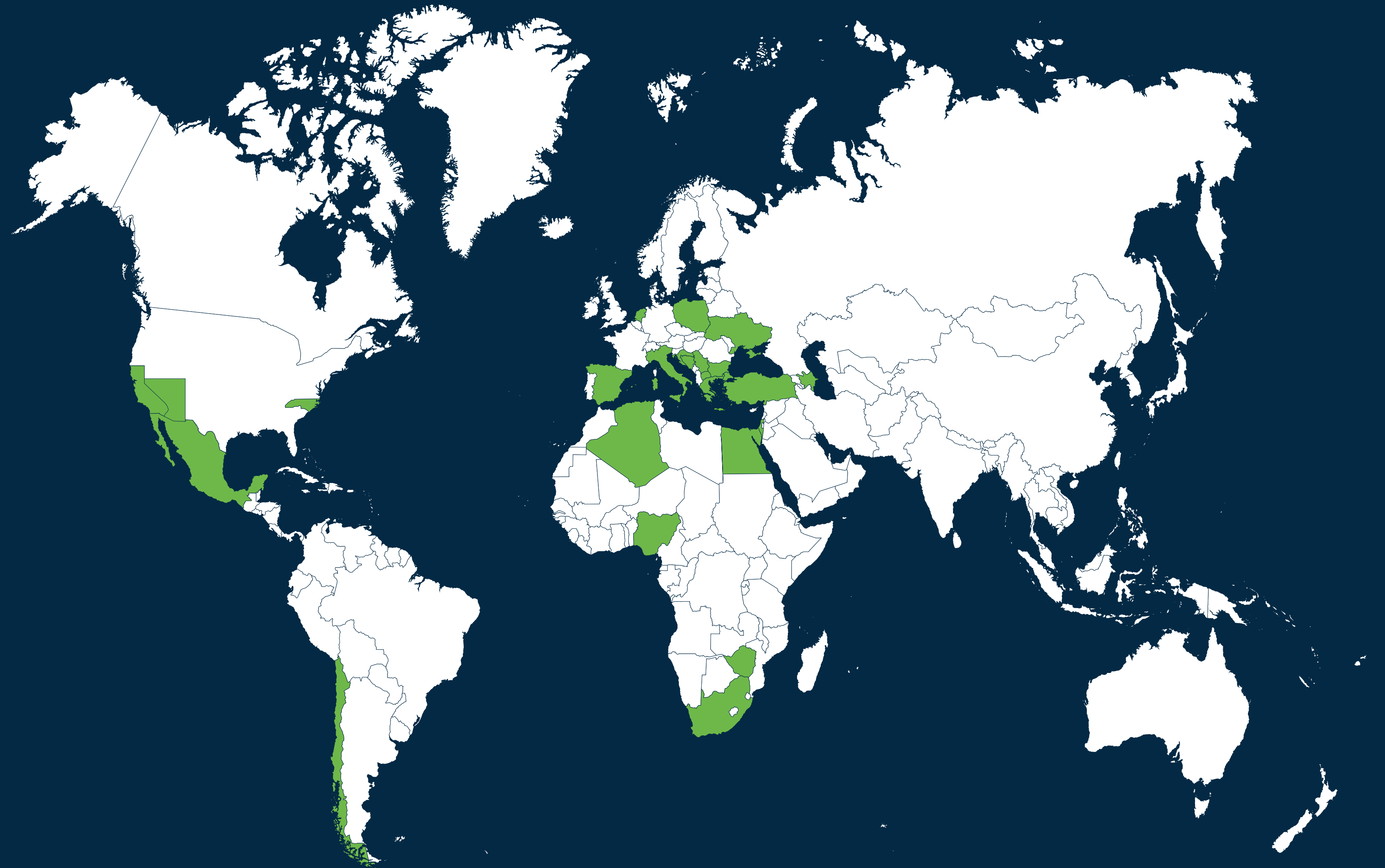
117 Megaridos str., 19300 Aspropyrgos,
Athens, Greece

Mexico

3703 Av. San Francisco,
Colonia Jardines de San Ignacio
Zapopan, Jalisco, Mexico

Serbia

Gocetova street,no.14,
Zitoradja, Serbia



100%

eco-friendly approach

One of the major problems today, in our fight for **sustainability**, is the **protection of the environment** from non-recyclable **waste** created in many industry sectors.

INA PLASTICS drainage collection gutters & cultivation troughs are made of **100% recycled** materials with the addition of UV stabilization compounds that contribute to their longevity and are **recyclable** after use.

**"Drainage collection gutters
& cultivation troughs"**
is the solution. Offering :

More **productive**
More **economical**

100% Ecological
Hydroponic Cultivation

Drainage collection gutters & cultivation troughs



Benefits of **Hydroponic cultivation**

- Need of water is reduced up to 90% compared to conventional
- More economical, eco-friendly cultivation
- Hydroponic system can be installed in any horizontal location
- No need for fertile ground
- More plants per square meter, thus higher yields achieved
- Root system is easily monitored and controlled
- Use of chemicals is reduced significantly



Grow bag & pot cultivations



Grow bag cultivation

Pot cultivation

INA PLASTICS SA produces **hydroponic gutters** made of polypropylene sheet that can accommodate all kinds of **grow bag cultivation** (stonewool, perlite, coco etc.) as well as **hydroponic pot cultivation**.

Designed to collect water and nutrients (that afterwards get recycled), keeping high quality standards and thus extended longevity. Available in various thicknesses and dimensions depending on customers needs. A unique advantage of the INA PLASTICS gutter is coming from the way it is designed and produced.

Gutters come pre-folded and due to the engineering of their walls, once they unfold, they stay in 90-degree angle with no additional actions needed. This means that no supporting accessories are required. Sides are kept open to such an extend that the light can only affect the plant and this way drainage water is also protected from algae. Specially designed spacers keep the grow bags flat avoiding sagging thanks to the adequate contact surface.



When gutter **unfolds**

It is kept in **U - shape** as it is produced folded in rolls. Our gutter is manufactured tailor made to the need of each customer, according to the size of the grow bag used for the hydroponic cultivation.

The mix of materials used during the production process has been perfected over the years to offer the best possible technical abilities (flexibility, UV protection, endurance). It is produced in color **black or white** depending on the sun radiation at the area of installation. Black attracts radiation and in the surrounding area temperature increases, white keeps the temperature in cooler levels.



Loose substrate cultivations



Loose substrate **cultivations**

INA PLASTICS SA also manufactures **cultivation troughs** suitable for **loose substrate cultivations** of any kind (perlite, agro-lava, pumice, coir, peat mix etc).

They are used instead of grow bags. INA PLASTICS troughs are produced in various sizes and thickness levels depending on the customer's needs using our enhanced UV stabilized polypropylene sheet.

Troughs consist of tall side walls that are supported by pegs connected with the equivalent 6mm tube. They may have drain holes at the bottom, on the sides for water drainage or no holes at all. The connecting support kit holds the side wall on place and overcomes media weight and root pressure maintaining their Ushape. Recently a special shaped trough has enriched the range of these products. It has an extra folding near the top of both side walls, that improves rigidity and straightens up the edges of the troughs, giving both structural and visual benefits.

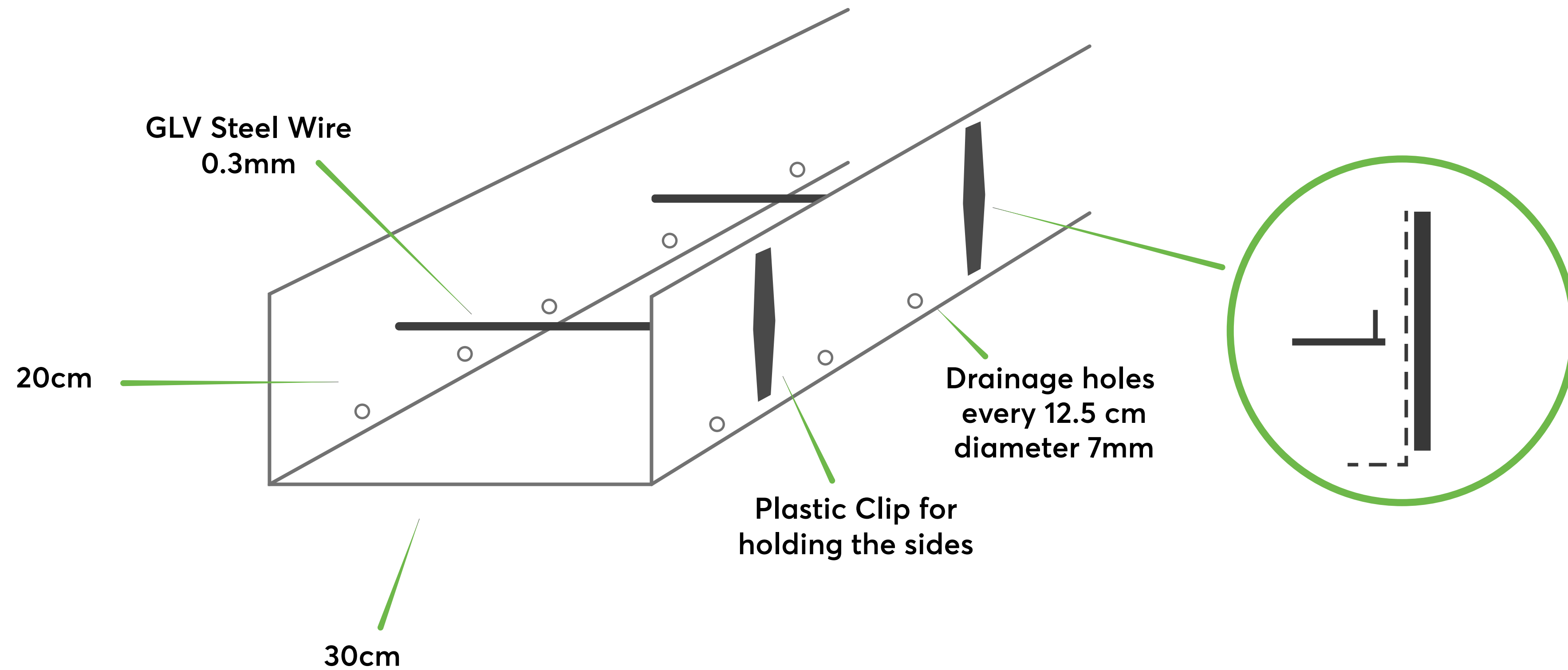


Complete system of **gutter & trough**

They can work together with the gutters as a **complete system**: The trough can be installed inside the gutter, which will collect the drainage water of the cultivation. Both products provide a low-cost solution to hydroponic cultivation with high quality standards.



Plastic Cultivation Trough



Spacer for **better drainage**

Despite its **light weight** the spacer is designed to **withstand the weight of grown plants** in grow bags or troughs. Weight is distributed equally and thanks to its geometry, **drain water flows perfectly** through the channels towards the sides of the gutter. Additionally in terms of logistics, **transportation is very favorable (one full load can carry up to 90000 pieces)** thus it becomes a **cost effective solution**. Spacers are produced in **different sizes** so that they can be used according to the needs of the installation.



Logistics & **Handlings**

Practical packaging in **rolls** and **customized roll length** depending on cultivation line.

Gutters are usually produced in rolls of around **120m** and Troughs are produced in rolls of around **150m**. They are packed in pallets with **36 rolls per pallet** (total of 95.040m/40 ft container full load).

When the customer receives, gutter and cultivation troughs are **ready to be unfolded** and to be **installed**.



Most **common crops** for hydroponic cultivation

Given the increase in need for more sustainable agriculture, there has been a rise in eco-friendly companies around the world producing crops with hydroponic technology.

Most common hydroponic cultivations are **tomatoes, cucumbers, peppers, green vegetables** (such as lettuce, spinach, kale), **herbs** (like basil, coriander, mint) and **berries** (strawberries, blueberries, cranberries, raspberries).



Berries cultivation with **troughs**

INA PLASTICS troughs have been successfully used in Serbia for hydroponic cultivation of berries over the past two years.

From data that has already been collected there is expectation of **increase in yield** of 25% to 30%.

Proving that cultivation in trough is more **cost effective** comparing to the conventional cultivation in pots.

With the inclusion of UV stabilizer and other materials, **longevity** is ensured.



Cultivating international **cooperations**

Since Ina's 'turn' to investments in hydroponic solutions, **important milestones** have been achieved.

Ina Plastics is now proud to have **partnered up** with some of the most recognized plant raising companies in the world and the **drainage collection gutters & cultivation troughs** played an **important role**.

Ina's **international partners**
among others:

 **SUPERIOR**

 **ΓΕΩΡΓΙΚΗ
ΑΝΑΠΤΥΞΗ Α.Ε.Ε.**

AGRICOLA
Maas
GREEN HOUSE

 **AGROGRAM**

 **horticola
jehessa**

 **NATURESWEET
TOMATOES**

 **HORTICOLA
CIMARRÓN**

 **D'MEZA**

 **PRODUCTOS DEL CAMPO
HERMANOS GÓMEZ**

Most popular sizes of Gutter



Size (cm)	Thickness level	Rolls/Pallet	Suitable Spacer (cm)	Total m/40ft Cntr
6x23x6	0,7-0,8 mm	36	20x60x5,9	95040
5x25x5	0,7-0,8 mm	36	20x60x5,9	95040
6x25x6	0,7-0,8 mm	36	20x60x5,9	95040
7x25x7	0,7-0,8 mm	36	20x60x5,9	95040
5x29x5	0,7-0,8 mm	28	20x60x5,9	73920
6x27x6	0,7-0,8 mm	32	20x60x5,9	84480
6x28x6	0,7-0,8 mm	32	20x60x5,9	84480
6x35x6	0,7-0,8 mm	24	67x33x5,8	63360
6x45x6	0,7-0,8 mm	20	60x40x5,9	52800



Most popular sizes of Trough



Size (cm)	Thickness level	Rolls/Pallet	Rolls/Cntr	Total m/40ft Cntr
15x15x15	0,7-0,8 mm	24	528	63360
20x20x20	0,7-0,8 mm	20	440	52800
20x30x20	0,7-0,8 mm	16	352	42240
20x40x20	0,7-0,8 mm	16	352	42240



10 REASONS WHY

EFFICIENT LOGISTICS



ROOT QUALITY



PREMATURE GROWTH



TAILOR MADE



WATER-SAVING SOLUTION



HIGHER YIELDS



COST EFFECTIVE PRODUCT



ECOLOGICAL



REUSEABLE



LOW COST TRANSPORTATION



FOLLOW THE NEW ERA IN HYDROPONICS

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