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# PET LAMP

news



*DESIGN PROPOSAL:* PET Lamp / *GREENPEACE:* The Trash Vortex / *WHY COLOMBIA?* Workshop August 2012, Bogotá  
*EL TIEMPO:* En dos semanas van 2500 desplazados en el Cauca / *DOMUS:* AUTONOMY BY DESIGN Charting new territories  
of design / *THE ARTISANS:* Interview to Imelda Pertiaga

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# PET LAMP

In the Summer of 2011, on a visit to Colombia, I was invited to form part of an attractive project focussed on the reuse of plastic bottles PET. Hélène Le Drogou, psychologist and activist concerned with the plastic waste that contaminates the Colombian Amazon, invited me to give my point of view as an industrial designer on this problem.

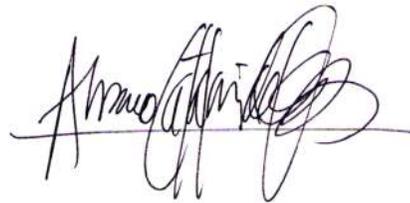
As part of a group of creatives involved in this project, I could see that the pollution generated by the plastic bottles that we use every day is a problem that affects us on a global level. It was because of this that I decided to develop a project that would provide answers, from a design viewpoint, to this global issue.

The way we addressed this problem was to combine it with an ancient artisan resource: the textile tradition. Thus, my idea was to convert an object with a short and specific lifespan into a product enriched by the cosmogony of the local culture.

Colombia, thanks to its enormous cultural wealth, has been the perfect place to

develop the first phase of this project. Thanks to the advice of Artesanías de Colombia and to the patronage of Coca Cola, in August 2012 we returned to Bogotá, where we created a workshop of artisans from Cauca who had been displaced by guerilla war.

Seen from a distance, for its logical complexity, it seemed like an impossible task. However, a big part of the magic of this project has been to see how a puzzle of seemingly infinite pieces was put together until finally it was presented in the marketplace for the first time at the Milan Furniture Fair, 2013.



Alvaro Catalán de Ocón  
Product designer  
Madrid, Abril 2013.

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# THE TRASH VORTEX.

The trash vortex is an area the size of Texas in the North Pacific in which an estimated six kilos of plastic for every kilo of natural plankton, along with other slow degrading garbage, swirls slowly around like a clock, choked with dead fish, marine mammals, and birds who get snared. Some plastics in the gyre will not break down in the lifetimes of the grandchildren of the people who threw them away.

The very thing that makes plastic items useful to consumers, their durability and stability, also makes them a problem in marine environments. Around 100 million tonnes of plastic are produced each year of which about 10 percent ends up in the sea. About 20 percent of this is from ships and platforms, the rest from land.  
(...)

A single one litre bottle could break down into enough small fragments to put one on every mile of beach in the entire world. These smaller particles are joined by the small pellets of plastic which are the form in which many new plastics are marketed and which can be lost at sea by the drum load or even a whole container load. These modern day "marine tumbleweeds" have been thrown into sharp focus, not only by the huge quantities removed from beaches by dedicated volunteers, but by the fact that they have been found to accumulate in sea areas where winds and currents are weak.

## *The "Eastern Garbage Patch"*

The North Pacific sub-tropical gyre covers a large area of the Pacific in which the water circulates clockwise in a slow spiral. Winds are light. The currents tend to force any floating material into the low energy central area of the gyre. There are few islands on which the floating material can beach. So it stays there in the gyre, in astounding quantities estimated at six kilos of plastic for every kilo of naturally occurring plankton. The equivalent of an area the size of Texas swirling slowly around like a clock. This gyre has also been dubbed "the Asian Trash Trail" the "Trash Vortex" or the "Eastern Garbage Patch".

This perhaps wouldn't be too much of a problem if the plastic had no ill effects. The larger items, however, are consumed by seabirds and other animals which mistake them for prey. Many seabirds and their chicks have been found dead, their stomachs filled with medium sized plastic items such as bottle tops, lighters and balloons. A turtle found dead in Hawaii had over a thousand pieces of plastic in its

stomach and intestines. It has been estimated that over a million sea-birds and one hundred thousand marine mammals and sea turtles are killed each year by ingestion of plastics or entanglement.

Animals can become entangled in discarded netting and line. Even tiny jelly-fish like creatures become entangled in lengths of plastic filament, or eat the small plastic particles floating in the water.

## *Chemical sponge*

There is a sinister twist to all this as well. The plastics can act as a sort of "chemical sponge". They can concentrate many of the most damaging of the pollutants found in the worlds oceans: the persistent organic pollutants (POPs). So any animal eating these pieces of plastic debris will also be taking in highly toxic pollutants.

The North Pacific gyre is one of five major ocean gyres and it is possible that this Trash Vortex problem is one which is present in other oceans as well. The Sargasso Sea is a well known slow circulation area in the Atlantic,

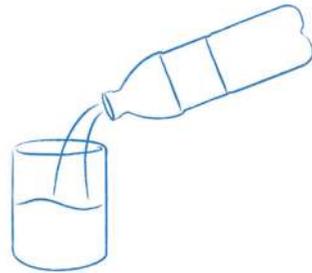
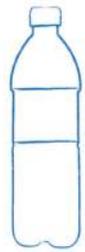
and research there has also demonstrated high concentrations of plastic particles present in the water.

## *Ocean hitchhikers*

(...)  
Of course, not all plastic floats. In fact around 70 percent of discarded plastic sinks to the bottom. In the North Sea, Dutch scientists have counted around 110 pieces of litter for every square kilometre of the seabed, a staggering 600,000 tonnes in the North Sea alone. These plastics can smother the sea bottom and kill the marine life which is found there.  
(...)

Greenpeace, (n.d). The trash vortex. 21st March 2013, <http://www.greenpeace.org/international/en/campaigns/oceans/pollution/trash-vortex/>

GREENPEACE



# THE ISSUE

A growing quantity of plastic waste is invading every corner of the planet. In many places there aren't adequate resources for the collection and recycling of this waste and in tropical zones this problem is accentuated in a very particular way. The tropical rains wash the PET plastic bottles into the rivers which in turn wash them out to sea. Once there, the bottles float on the ocean currents. This continuous accumulation

of plastic waste has produced an immense island in the Pacific ocean, already bigger in size than Spain, which today is known as the Seventh Continent". Due to the size of this problem no country has taken responsibility for it and it is only recently that a French expedition has pledged to make a serious investigation into this phenomenon (more details can be found at [www.septimecontinent.com](http://www.septimecontinent.com)).



# PROPOSAL

We believe in reuse as the counterpoint to recycling.

PET bottles have a very short useful lifespan which seems scandalous when you consider the effort required to produce them. Nevertheless, they are a widely used product justified by their unquestionable effectiveness, price and practicality.

# DESIGN

PET bottles can have a second life. There are other ways to accomplish this, but we looked to fuse one of the most produced industrial objects with one of the traditional crafts most rooted to the earth. The bottles changed from being containers for liquids into being ceiling lamps. We took advantage of the bottle top to join the electrical components to the lamp shade, the neck as the structure and the body of the bottle as a surface on

Our objective is to think about the validity of the object over the long term, and to avoid it becoming obsolete after only a few minutes.

The right manipulation of the bottle would allow its transformation into a coherent, functional and desirable product for the market.

which to weave. The principle of weaving is reinterpreted and the surface of the bottle is converted into the warp through which the artisan weaves the weft. In the same way that the tracking number printed on the bottles neck tells us of its production, where it was bottled and its destined market, the weaving created by the artisan tells us of their tradition by way of its fibres, colours and motifs.

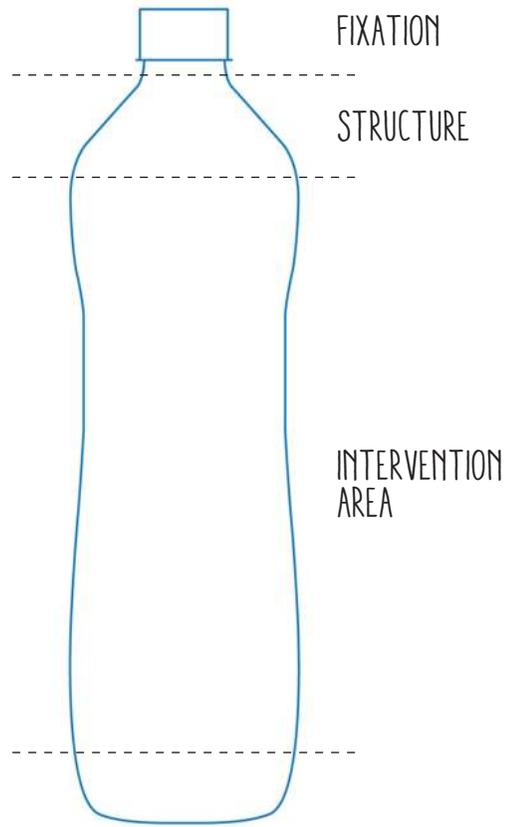
# INSPIRATION



The starting point regarding how to manipulate the bottles came from analysis of the bamboo stirrer from the Japanese bamboo tea ceremony since both objects had many elements in common: they are both made from a single material and made in one piece. Furthermore, in form they have a structural element (the knot of the bamboo) and a flat surface that can be spun. Weaving on this warp, the piece acquires and maintains its desired form. Analysing the bottle as an industrial piece, we can see in it traces of its manufacturing process. Therefore, the lines where the molds meet serve as horizontal and vertical references for cutting and spinning.

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# HOW?



BAMBOO

PET BOTTLE



# WHY COLOMBIA?

Colombia is the fourth most extensive country in South America and the only country to possess both a Pacific and a Caribbean coast.

Colombia boasts an abundance of nature and is the second most biodiversified country in the world. This natural wealth is found throughout its numerous humid and fluvial areas, Amazon jungle, Caribbean savannahs, Andean forests etc. With a population of over 46 million, Colombia defines itself as a multiracial nation, with an ethnic mix of races the majority of which coming from Europe, mainly Spain and Italy. There is also a large population of African origin as well as smaller groups descended from Asia and North America. The indigenous population, which makes up 3.4% of the

total population, owns 27% of the land and maintains, up to a point, autonomy to manage its community affairs, run its health systems, have control over its own education and hold jurisdiction over its own territory.

The topographical conditions of the Amazon and the Andes, added to the prolonged political conflict, have created a specific social phenomenon where different cultures and migratory groups have remained isolated, developing particular and exclusive artistic traditions and customs.

This has given Colombia an extraordinary variety of cultural expressions that explains its enormous musical and artisanal wealth.

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# IN TWO WEEKS THERE HAS BEEN 2,500 PEOPLE DISPLACED FROM THE CAUCA REGION.

Villagers from Toribio, Corinto, Miranda y Argelia have abandoned houses because of FARC harrassment.

While the eyes of the country are fixed on the delicate military situation in the North of Cauca, the torrent of people being displaced from this area doesn't cease. In the last two weeks, according to sources at the Red Cross and the local government of Cauca, FARC attacks have forced at least 2,500 people from nine settlements – among them Toribio, Corinto, Jambaló, Miranda and Argelia – to flee their homes. The worrying thing is that, unlike other displacements that occurred in the past, the persistence and intensity of the harrassment and fighting has prevented people from returning to their houses. In the past they could return home within two or three days. One of the most delicate situations is in Argelia, in the South of Cauca, where the inhabitants

claim the same attention that is given to those in the North of the region. "We have begged the government to notice us. We are living through a very difficult chapter of this conflict and we cannot manage to get through it", said the mayor of Argelia, Elio Gentil Adrada. (...) And now, the few that have dared to return to their towns say that at 5PM they leave their homes in search of refuge for fear of a new assault. At the weekend, members of the International Committee of the Red Cross and of their branch in Colombia arrived with a humanitarian convoy to the areas most affected. (...) *The un condemnation of the guerrillas* The representative in Colombia of the UN High

Commission for Human Rights, Todd Holland, condemned the FARC attacks on the villagers of Cauca. He said that he was a witness of the situation in the region. "Throughout almost all of the visit I heard gunshots and explosions", said Holland. He also confirmed that the coordinator of the Indigenous Guard of Miranda, Camilo Tarquinas, was injured in the left leg when he was leaving the zone. Tarquinas is recovering in Cali.

*Santos will deliver "not one centimeter" of Cauca* In the face of insistence from the indigenous community of Cauca to pull the Fuerza Pública out of the zone to put an end to the fighting with FARC, president Santos has said

that he will not pull out the Police or the Army. "There is not the slightest possibility that this President of the Republic will order the Public Forces out of Cauca", said Santos. And he continued: "They are obliged to protect every centimeter of our territory. He said that he is disposed to enter into dialogue with the indigenous groups, but negated any possibility of clearing out of Cauca or any other zone. (...)

Meneses, F (15th July 2012). En dos semanas van 2500 desplazados en el Cauca. 21st March 2012. [http://www.eltiempo.com/justicia/ARTICULO-WEB-NEW\\_NOTA\\_INTERIOR-12033245.html](http://www.eltiempo.com/justicia/ARTICULO-WEB-NEW_NOTA_INTERIOR-12033245.html)



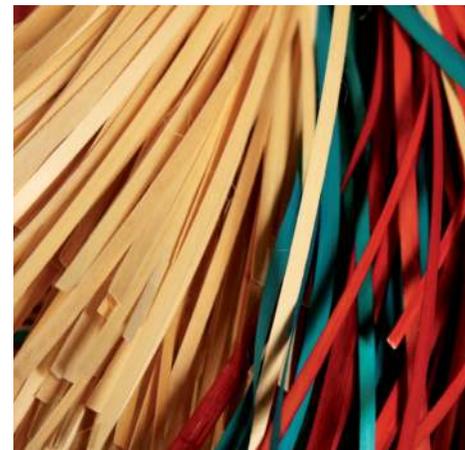
Marta Cesilia Cuchillo with her son at Artesanías de Colombia's patio, Bogotá.

## SOCIAL

Through the Asociación Artesanías de Colombia, an organism dedicated to the diffusion and preservation of the traditional crafts of Colombia, we had the opportunity to collaborate with groups of artisans from the Cauca region who had been displaced by guerrilla war to Bogotá. From this, the workshop which we developed together with artisans from two distinct ethnic groups throughout the month of August 2012 was born. The Eperara-Siapidara are found in the littoral region of Cauca, a hot zone where the Paja Tetera palm tree is abundantly found. This is the source of the fibres for their traditional crafts which they die with locally found natural pigments.

The Guambianos, despite their geographical proximity to the Eperara-Siapidara, are an ethnic group from a cold zone situated in the Central mountain range of the Andes and with a tradition which they have preserved from before the Incas. In their wool and cotton weaving they reflect the character of their country and symbolism of their culture. In this first phase of the project we have tried to give these artisans, who are found living in Bogotá in very poor conditions, uprooted from their land and their culture, a livelihood thanks to their traditional knowledge.

# MAKING OF















DOMUS 967 - March 2013

## AUTONOMY BY DESIGN CHARTING NEW TERRITORIES OF DESIGN

They say there's no such thing as coincidence—it's just hard to explain how coincidental things occur. But in the case of Alvaro Catalán de Ocón and Francesco Facchin, it's all crystal clear. Designers and friends since university in Milan, they worked together on experiments and projects in London and Barcelona and were fellow exhibitors in Milan at the 2010 Salone Satellite. Their design outlooks matured on the same fertile ground, in a mutually dialectical evaluation of each other's ideas. After this shared point

of departure they pursued professional paths in different cities, but it came as no surprise even to them to find that they were working on similar projects practically at the same time. Their respective schemes were rooted in arduous territories culturally and technologically far removed from their own, yet infinitely more stimulating and future-oriented. An unspoken dialogue between Milan and Madrid also brought them, metaphorically speaking, to the same place. The stories of their latest two projects differ, but reveal the same attitude to the role of the designer today.

Alvaro has his office in Madrid, but he has been travelling regularly to Colombia in recent

years because his wife, Juana Miranda, who is a textile designer, was born there. He is well aware that one of the country's biggest problems is refuse disposal and recycling, especially of plastic bottles, which, after being used for a few minutes, are often swept by heavy rains into rivers and from there into the sea. This calamity is responsible for vast marine "garbage patches", five of which were discovered on the oceans between the 1960s and 1980s, covering an area larger than the United States according to radical estimates. Having missed the opportunity to take part in Isla de Agua, a project run by Héléne Le Drogou centred on recycling pet bottles, Alvaro decided to develop the theme in his own way

He shifted the focus to the concept of reuse, not only of the bottles but also of the textile techniques practised by local communities. Both were neglected resources that could be reused to produce a new object. The idea took shape by carefully observing the technical and structural characteristics of the bottle: its narrow sturdy neck, its body as an extensive workable area, and the transparency of its material. The logical result of that research was to create a lamp. "My initial inspiration for the design came after looking at an implement for removing the used tea leaves in Japanese tea ceremonies, which consisted of nothing but a piece of 'stripped' bamboo," says Alvaro. "I thought of transferring this technique to the bottle, with a weft and warp in plastic and natural fibres. By combining a global object like the pet bottle and a global craft like weaving, a fruitful encounter between design and handicrafts was created." Tests on the idea's potential to be turned into a design product convinced Alvaro to progress to the development phase in Colombia, a country particularly rich in traditional communities and techniques. Its Atlantic and Pacific coasts display the influence of African and Asian cultures, while history has added those of the colonialists and pre-Columbian traditions. However, as a field of action, this was too vast. The solution was to explore some communities run by Artesanías de Colombia, an enterprise consisting of native artisans who have settled in Bogotá, either because they were ex-guerrilleros or because guerrilla warfare had deprived them of their livelihoods in the Guambianos mountain communities and those of the Eperara-Siapidara in



the Cauca Valley. Their participation was enthusiastic because they immediately felt they were truly part of the project, as well as seeing it as an opportunity to escape from a tough life. For the women in particular, weaving is a way of socialising.

The fair trade of skills that ensued from the workshop held last August resulted in the pet Lamps, with local artisans freely interpreting the idea launched by the designer. Effectively representing an extension of the locals' way of being, the lamps have the same patterns and colours as their clothes, hats and baskets. These craftspeople used the new material in their usual free-and-easy way, as with natural fibres, cutting it in the same thickness, subdividing it into groups of even or uneven strips, choosing the design, and twisting the yarns in different ways to achieve a shiny or opaque effect. "I realised the project would work when I saw people going round the streets looking for bottles of the right colour, shape and condition for what they had in mind," explains Alvaro. Each object is unique, in the best artisan tradition, even if it is made with a systematic process that involves a complex production and distribution chain.

The semi-finished product made by the artisans arrives at Alvaro's office, where the light source, electrical wiring and weights to stabilise the diffuser are added. The lamps can then be sold and distributed in Colombia directly by the native communities or local bodies, or exported to Europe through the Catalán de Ocón office which markets them via the Web or directs them to the galleries and

outlets in its network. The pet Lamps are not designed according to the rules of copyright, but of copyleft, with great creative and organisational freedom. What matters is to rid the streets, and hence the oceans, of as many bottles as possible. "I want this project to leave my sphere of control. I like not having to define its details, as I usually do," he tells us. "My dream is to come across the lamps hanging in a bar on the beach, frequented by customers who don't know the lamps are made of reused bottles." The project has even found a sponsor: Coca-Cola.

The work of Francesco Faccin in Nairobi is marked by a reverse situation, but with the

same appreciation of local technologies (...)

Design served only to simplify. The most important thing was the process, which proved fundamental in a country that does not think in terms of design but of immediate survival. The approach here is the same as in Colombia, where Alvaro started from an idea to create a system that he then left to be continued locally. The designer's role in these two cases is immersed deeper within the project, and the approach adopted is broader than that of traditional practice. A new definition of authorship is also created as an alternative to the canonical model, while demonstrating that there is still much to be designed.

For Francesco, this is the most intelligent way of going about design today. "Designing really makes sense in situations like these, where you're working with a sensitive client. In Italy and generally in more 'advanced' societies, design is worn out, except in more scientific or extreme areas of research, such as Marcin Jakubowski's open-source ecology projects. To change a system that doesn't work we need to leave it and create new rules." It was these factors that spurred Alvaro's search for alternative outlets, along with the difficulty of finding companies that would let him work on projects which he could not have developed on his own. His philosophy to combat a system that produces too much and badly is to do less but better, by working on small-scale editions that are then perfected on each new occasion: one project per year. Indeed, even a success corporation such as Apple operates according to a similar choice, working for years to perfect and renew the same "technological boxes".

Both designers here are firmly convinced of the potential offered by this new way forward. For Francesco, the Mathare project immediately led onto other projects of the same kind—and in Milan, incredibly enough. In order of time, the first initiative has been a new restaurant along the city's Navigli canals, which will principally be furnished with items made by a prison workshop— which Francesco coordinates on behalf of LiveinSlums—as well as with Alvaro's Colombian lamps, of course. —Loredana Mascheroni.





Left: Exhibition *Fuera de Serie* at Palacio de Cibeles, Madrid. Curated by Ana Dominguez. Photography by Eduardo López.  
Right: *JustMad Design Fair 2013*.  
Opposite page: Installation of three 21 lamps' sets at Cappuccino, Ibiza.



# ARTISANS

## INTERVIEW TO IMELDA PERTIAGA

Imelda Pertiaga is one of the artisans who has participated in the PET Lamp project since the first workshop in Bogota in the Summer of 2012.

A single mother and a proud representative of her cultural traditions, she has been living in Bogota for the last three years, with the constant motivation of being self sufficient and the offer of prosperity and security for her son. We wanted to get close to her to get to know a little about her past on the Pacific coast and the intimacy of her dreams for the future.

*Pregunta: ¿En qué parte de Colombia Nació?*

Imelda Pertiaga: Naci en el resguardo indígena de Guanguí Municipio de Timbiquí Cauca.

*P: ¿Cómo vive la gente en su pueblo en el Cauca?*

I.P: Vive muy libre de todo los prejuicios sociales con absoluta libertad trabajando sembrando plátano la yuca etc.... Y los niños se divierten mucho jugando en la playa las mujeres tejiendo canastos para el fortalecimiento de la cultura eperara siapidara

*P: Cuéntenos algún recuerdo bonito de su niñez...*

I.P: Mi recuerdo mas preciado jugar en la canoa o potrillo aprendiendo a manejar

con el canaleta en el rio y mis primeros pasos a aprender a tejer y de allí aprender a leer y a contar y conocer los números con absoluta libertad.

*P: ¿Qué es lo que más disfrutaba de la vida en el Pacífico?*

I.P: Sin duda comer pescado dormir en la playa bañar en el rio.

*P: ¿Qué es lo que menos le gustaba de la vida en el Pacífico?*

I.P: La poca oportunidad de prepararme a nivel educativo y oportunidades limitadas a nivel laboral.

*P: ¿Que quisiera dejarle a su hijo para su futuro?*

I.P: Sin duda alguna sueño que mi hijo entre a una universidad y llegue hacer profesional pero también sueño con una casita para poder dar esa estabilidad.





# EPERARA-SIAPIDARA



Top left: Liliana Grueso and Mélida Valencia.  
Bottom left: Tomás.  
Top right: Emerita Chirimio  
Opposite page: Manuela Dura





# GUAMBIANOS

Left: Domingo Ullurie.  
Below: Marta Cesilia Cuchillo  
Opposite page: Maria Stella Cuchillo





# PRODUCT

From Madrid, the challenge as industrial designers was to transform this half-finished product, the lamp shade created by artisans in Colombia, into a product ready to be sold on the market: the lamp. Given that each lamp shade is unique we chose to offer individual lamps as well as big installations. For this we designed a rosette which is cylindrical and made out of mechanised iron and later phosphated, like a black hole from which all the different cables fall.

The choice of cable was fundamental to connect in a natural way the language of the lamp shade to the cylinder and to the different electrical components. For this we decided on a textile cable, specially made for us, in vivid colours and with the perfect texture and fall.

Avoiding becoming stylised, we wanted to keep the protagonism of something as characteristic of the bottles as the bottle top and its neck. The transparency of this last part allows one to make visible a ring of engraved iron, giving weight, authenticating the lamp and allowing the client to know the origin and history of each lamp.

ONE SIZE  
DIAMETER  
APPROX. 25 CM



GUAMBIANOS

SIZE  
DIAMETER

S  
20 CM

S  
20 CM

M  
22 CM

M  
25 CM

L  
33 CM

L  
36 CM

L  
40 CM

XL  
42 CM

XL  
53 CM



EPERARA - SIAPIDARA

## SET OF 3 LAMPS



## SET OF 6 LAMPS



## SET OF 12 LAMPS



## SET OF 21 LAMPS



## TECHNICAL SPECIFICATIONS

As every lampshade is unique, the combination of them with the cables make the PET Lamp an even more exciting and personalized light installation.

The standard set of lamps are 3-6-12 and 21 lampshades ready for a ceiling height of 3 meters. You can personalize the set to fit your space by contacting us at [info@petlamp.org](mailto:info@petlamp.org) and choose your own combination of colors and patterns for the cable and lampshade.

Size S, M and L fit an E14 lamp holder;  
Max. 25W.

Size XL fit an E27 lamp holder; Max. 60W

220V, CE certification.



[WWW.PETLAMP.ORG](http://WWW.PETLAMP.ORG)