

# FASTENING & ASSEMBLY SOLUTIONS FOR WHITE GOODS INDUSTRY

Increase your design possibilities & boost your manufacturing productivity!

Cable Ties



Plastic Cable Clips



Plastic Panel Pins



Grounding Clips



Spring Rings, Grommets, Caps



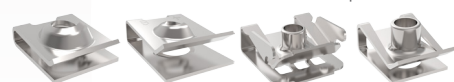
Trim Clips



Shaft Retainers



Metal Snap on nuts



ARaymond **Industrial** currently provides to the white goods market different product lines such as:



### CABLE TIES

Ensuring the fastening of electrical cables, pipes or corrugated hoses to the structure or to a metal panel, the available cable ties have extra features such as edge clips, fir tree or anchor foot function, plastic clips to attach it to a pipe and or swivel function.



### PLASTIC PANEL PINS

Plastic push pins for replacement of traditional solutions such as screws or rivets. Aesthetic solution thanks to small head to be unnoticeable and some solutions with removable function. Some applications where they are used are to fix the plastic covers of the front panel of the washing machine or the dishwasher.



### GROUNDING CLIPS

Technical solutions with high added value, allow the connection of metallic elements to the ground without need of holes, welded studs, toothed and threaded washers.



### SPRING RINGS, GROMMETS AND CAPS

Spring Rings protect through holes in plastic parts where a screw passes across, and produces the creep effect (damaging the plastic with the friction of the thread). Grommets protect the wiring passing through a metal sheet hole, avoiding the damage and even cutting the cable. Caps protect from dust and embellish an unused hole of the product.



### SHAFT RETAINERS

Easily applied, they provide several advantages over the traditional hex-shaped cold-headed nuts, by eliminating need for a washer and lock-washer and reducing material and investment costs. Shaft Retainers require less torque, and the self-threading option eliminates the need for a threaded rod or screw and can be assembled directly to injection molded parts.



### PLASTIC CABLE CLIPS

These parts are simple to install and provide a reliable retention. The product family is wide and can be assembled in different environments like in a hole, on a panel edge, on a stud, to cables/tubes/hoses and on flat surfaces.



### TRIM CLIPS

Hidden solution installed in seconds, eliminate mechanical fastener from view, improving the aesthetics of the end product.



### METAL SNAP ON NUTS

Most of the White Goods appliances are made from thin metal sheet panels, acting as covers and fixed to an internal metal frame. This family eliminates the need for re-work and the potential replacement of an entire panel due to sheet metal screw stripping. It also avoids doing weak threads in this kind of thin panels.