The evolution of the perfect plug

The world’s first wall plug, patented in 1911 under the number 22680/11, had changed the technology of finishing works for good, and it ultimately became the very foundation upon which the Rawlplug® brand was founded, but also gave birth to a completely new perception of the fixings and fasteners sector. With this great invention, Rawlplug® marked the beginning of the sector’s history and initiated its gradual development in subsequent years.

Everything started more than 100 years ago.

“We can provide every screw to be fixed in a wall with a dedicated blanking plug of matching size which we will design to make it expand to the maximum once the screw is driven home to the cap.” Is that what John Joseph Rawlings was thinking while looking at the British Museum building as he was planning to enter the facade renovation tender procedure?

The year was 1910. The British Museum was being prepared for major refurbishment of the entire building. Following the technological innovation of that day and age, the Museum had decided that the electrical system planned to be fixed to the facade should be concealed from the visitors’ gaze and installed in such a way as to avoid damaging the existing masonry. The question was how, since the only applicable method available at that time was to chisel out a hole in the wall, fill it tightly with a piece of wood and screw a fixture to its surface. One by one, successive contractors were backing out of the job. All but one – the owner of a small electrical and construction company, The Rawlings Brothers, operating in the market since 1887. John Joseph Rawlings – an entrepreneur, an inventor and a visionary in one, decided not to focus on the limiting factors, but opened his mind to innovative solutions. And the British Museum eventually received what they wanted, which triggered a true revolution in the construction industry. The world’s first wall plug,

The prototype of Rawlplug’s first fixing solution consisted of a brass strap press-formed to create four threaded sections. The sections were then put together and placed with a screw inside a hole to eventually expand under the screw’s impact. The real breakthrough was the application of fibre, which turned out to be a perfect material, mainly for its elasticity and durability. Hemp and string were arranged along the mandrel and bonded with adhesive. Rawlings’s simple yet spectacular invention solved thousands of problems of the then construction sector at the same time, automatically making the Rawlplug® one of the world’s watershed inventions, next to the radio, the cinematograph or the mechanical motor.

The invention was also a prelude to a series of patents released by the brand established in 1919, all of which revolutionised the construction industry. The wall plug was followed by the world’s first hammer drill – the Rawlhammer, the world’s first mechanical anchor – the Rawlbolt, the world’s first shock-resistant fixing – the Spring Toggle, or the world’s first fixing solution dedicated to thin-wall applications – the Rawlanchor, being a precursor of subsequent plasterboard fixing solutions. But it was no other than the world’s first wall plug, patented in 1911 under the number 22680/11, that changed the technology of finishing works for good, ultimately to become the very foundation upon which the Rawlplug® brand was built, but it also gave birth to a completely new perception of the fixings and fasteners sector. With this great invention, Rawlplug® marked the
beginning of the sector’s history and initiated its gradual development in the years to come.

Is universality a positive or negative feature?

Irrespective of the sector, one of the most important and topical contemporary consumer trends is specialisation pertaining to both products and services available in the market. Everyone expects solutions dedicated to a very limited scope of applications, which is obviously completely understandable business-wise, especially when it comes to solutions for professionals. The higher the specialisation, the more efficiently and adequately specific challenges are addressed. In the sector of fixings, fasteners and tools, such expectations are particularly relevant, because they encompass a wide spectrum of areas determining the product selection criteria adopted by architects, engineers and contractors: from base materials, to installation applications and methods, to different variants of technical parameters. However, among the product categories the sector considers most crucial, including bonded and mechanical anchors, facade and roofing insulation fixings, foams and sealants, passive fire protection systems, fasteners or manual and direct fastening systems, there is one which can be generally claimed to provide truly universal solutions. This category is lightweight fixings. Is it a positive or negative feature?

Depriving the construction industry of lightweight fixings would be like severing one of the sector’s limbs. There is virtually no construction sector without light- and medium-duty applications, and it is precisely for them that these products have been designed. Similarly, there is no interior finishing professional in the world who would do without common wall plugs, hammer-in fixings, drywall fixings or frame fixings at work. Regardless of the market, lightweight fixings are the bread and butter of professional construction works as well as do-it-yourself jobs.

Quoting Karol Szczuka, who is the Brand Manager at Rawlplug®, responsible for the development of all 10 product categories in our portfolio: It is the versatility of lightweight fixings that makes you focus on developing only a few key solutions catering to the needs of diverse construction jobs and universally suitable for different substrates, instead of designing dozens of specialised products intended for very narrow and specific applications. Under each of the 6 product subgroups in our portfolio of lightweight fixings, all of which completely satisfy the current market needs, there is a unique leading item which meets the most stringent technical criteria and mechanical strength requirements, while at the same time it guarantees universality of application in all construction substrates.

To prove this statement right, let’s consider the UNO wall plug, which has just reached the peak of popularity in the UK market, but at the time when it was being launched its exceptional innovativeness raised objections among consumers accustomed with the traditional solutions they had been using for decades. The reason for that was the particular way in which the UNO expands in the substrate. The most commonly used wall plugs expanded starting from the tip being driven into the base material, while Rawlplug’s solution represented a completely different, literally opposite approach, as it starts expanding at the outer extremity. It was really difficult for retail chain representatives as well as for contractors to believe that such a fixing would be robust and durable enough,
since the product defied the main operating principle on which popular and proven solutions were based. That’s why Rawlplug® refrained from using too much theory in its argumentation and delivered solid evidence instead, so that everyone could see how powerful their innovative product was without grounds for questioning it.

“We had built strong foundations to claim that our solution was trustworthy, which is why we encouraged consumers to test the UNO by installing it in any chosen base material, in either a newly driven or an existing hole, along with any chosen wall plug offered by the competition. Strength tests had explicitly shown that our product’s advantages were unquestionable, and that was but a prelude to further demonstrations of the versatility and universality of this solution,” says Remigiusz Misiak, Rawlplug’s DIY&POS Manager, discussing the experiences of introducing the product into the market. The altered point of expansion allows you to clearly determine if the product has been fixed correctly, but this is only one of the numerous reasons why it can be recognised as a diamond among lightweight fixings. It even proves perfectly effective in substrates of ample. The FF1 frame fixing from Rawlplug®. It comes with an abundance of advantages, including a unique one, namely the special polyamide formula accountable for its superior parameters in substrates of all categories according to ETAG 020: A, B, C and D. This means that it can be successfully used to ensure load capacity analogical to that which only bonded or mechanical anchors can deliver, which is unprecedented in the category of lightweight fixings, the only difference being that, unlike the anchors, it is suitable for many different substrates, including concrete, clay and sand-lime brick, both solid and perforated, as well as hollow lightweight concrete block or aerated concrete. For these reasons, whenever you cannot rely on heavyweight fixings on account of the application type, the lightweight FF1 comes to your aid, for instance when installing ventilated facade brackets. “The traditional technology typically applied in such jobs would require using a broader variety of fixings and fasteners along with the necessary accessories, not to mention the effort invested in following the complicated installation procedure. The FF1 lets you optimise both time and progress of construction works while ensuring 100% safety. What is more, similarly to our other patented solutions, it has been designed, tested and released for production using an in-house model, allowing us to provide the customer with a guarantee of full control which translates into unparalleled quality of processes,” claims our Brand Manager to sum up the product’s innovativeness.

It’s yet another proof that there is space for specialisation among universal solutions, provided that it focuses on the actual operating needs of users. The product is all the more versatile since it comes in numerous variants of diameter, length, head type or corrosion protection system. After all, if you analyse the market of lightweight fixings, installers’ actual needs and the vast legacy of this sector, you may come to a conclusion that the only right path to choose is that of working with the form, and not the content. Many products placed on the market, modified multiple times in terms of design and components, only appear as novelties while in fact they are ultimately rejected by the market on account of the complexity of their use, high costs and – last but not least – minute operating benefits.

However, the specificity of this product category does not exclude specialisation, even literally understood, provided that it is dedicated to specific groups of contractors or a particular market. Asked about their most
important needs, electricians point at installation reliability and safety. And that’s precisely what the market of lightweight fixings delivers by offering them collared fixings. Another example of products dedicated to specific applications is the TAP-IT metal hammer-in fixing for plasterboard, intended mainly for the UK market on account of the high popularity of thin-wall panels among British building contractors. When dealing with such a delicate base material, in order to minimise the substrate damage risk, an optimum product should be easily dismountable, at the same time ensuring that the installation hole gets completely concealed. It all boils down to making the right choice. But how to do it?

How to become a market expert?

Leaders of the contemporary fixings and fasteners market are well aware of the fact that professional products alone no longer suffice, which is why their offering is comprehensive, complemented by specialised services and training which expand know-how and raise competencies. The big question is whether construction professionals are capable of admitting that they need to expand their know-how and competencies. Yes, true professionals are. John, owner of a wholesale outlet specialised in providing comprehensive service to construction companies and investments, has shared his experiences with us: “I’ve recently answered a phone call from a person asking me how to fill a hole in a reinforced concrete floor slab: whether or not to pour new concrete where there used to be a service shaft. It was a highly specific question, and I must admit I failed to answer it. I simply know that there are gaps in my knowledge in certain areas, which is why I must continue to develop in professional terms.” He doesn’t consider it to be anything bad, and seeks to provide himself and his employees with various growth opportunities as well as deliver top-quality services to customers, making the most of the specialised training programmes available to representatives of the sector. The training he has been
choosing conveys knowledge in a structured manner, allowing the participants to automatically apply in practice what they have just learnt in theory. He has recently accepted an invitation to attend free-of-charge Rawlplug Academy® training at the London Training Centre, and he agrees with the following comment from Marcin Górala, Rawlplug Academy® Manager, who has been the project leader responsible for launching the Centre, which took place at the end of May this year: “We share our know-how and experience with our visitors, training them to become experts. This is precisely why we practise using two or more different products intended for the same substrate in order to eventually choose, on a trial and error basis, the one that is most appropriate for the given situation for various reasons, such as time and mechanical strength.” John has pointed out that it is exactly because he is a professional that he can openly admit to not having all answers at hand, or constantly seeking knowledge, which perfectly matches the evolutionary mode of development of the fixings and fasteners sector.

The evolution of the perfect plug

The world’s first wall plug patented by John Joseph Rawlings triggered a true revolution in the construction industry and went down in history for good. And although a lot has changed ever since in this sector, for more than 100 years, it has invariably been the space for inventors. The development of its products is based on their evolution which follows customers’ needs and creates new trends. Here is how Radosław Koelner, CEO of Rawlplug®, explains the specificity of the sector of fixings and fasteners as well as the approach towards seeking adequate solutions. “Good is by far not enough. This is why we have working towards the evolution of our products on a daily basis, making sure that our customers can make the most of technological progress, continuous improvement in terms of reliability and innovative design, whose common denominator is comfort combined with simplicity. This evolution has made us the experts we currently are.”