

Why Pressure Sensitive Adhesive Tapes Offer Advantages Over Traditional Fixing Methods

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The way component parts across a wide range of industries are assembled is changing.

Many manufacturing firms still use traditional adhesive and mechanical bonding methods, such as rivets, screws and glues, but technology is rapidly moving on and there are now a number of efficient alternatives.

Pressure Sensitive Adhesive tapes

(<http://www.parafix.com/en/index.cfm/applications/bonding-adhesives-and-mounting/>), or PSA tapes, are among one of the fastest emerging fixing options, with hundreds of types developed by leading tape companies such as 3M.

From mobile phones and televisions to cars, life-saving healthcare equipment and fighter jets, PSAs have proven to be a superior bonding and fastening method.

Yet according to research, only 30% of those who are familiar with PSA tapes currently use them as joining methods. (Research conducted by Afera (<http://www.fera.com>), the association for the European self-adhesive tape industry.)

"We face a real challenge in highlighting those benefits to customers who are happy with their existing bonding solutions"

Leading UK adhesive tape converter Parafix (<http://www.parafix.com/en/>) has recognised this trend, and has developed systems to deliver PSA tapes to very accurate specifications across a broad range of industries such as healthcare and automotive.

PSAs can be blends of natural or synthetic rubber and resin, acrylic, silicone or other polymer systems, with or without additives.

With PSA tapes, any fixing requirement can be met, thanks to its ability to go beyond the need for heat, water or solvents in order for it to work efficiently.

One of the key outstanding features of PSA tape is that it can be customised to specific requirements whether those be size, time (permanent, semi-permanent, etc.), or bond strength. In addition, PSA tapes can be used on machines and systems which companies already have installed, thus reducing potential extra costs.

As well as being flexible in its requirement usage, PSA is also environmentally friendly and recyclable, cost effective, and can be used on an extremely diverse range of products.

For Parafix, who primarily specialise in three core areas including health, electronics, and motoring, the use of PSA tape has been highly beneficial. Within each of the fields they specialise in, Parafix has found a number use for different uses for PSA tape.

To help companies decide which bonding method is the most appropriate, Afera commissioned Meijer + Voermans Consulting to create a comparison tool.

The Afera M+V tool, now used by Parafix to assist its clients, allows a direct comparison of all joining methods on the evaluated criteria. The comparison tool includes data of 19 joining methods judged on joint features and production related aspects.

Several factors are taken into account related to the feature of the joint (e.g., stress distribution, sealing function) and production related criteria (e.g. assembly time, equipment). A strength-weakness analysis of all joining methods is conducted through the judgement of these factors.

In many cases, the Afera M+V tool concludes that PSA tape is the most appropriate bonding method.

Yet although companies such as Parafix are delivering PSA tape solutions (<http://www.parafix.com/en/index.cfm/applications/electrical-tapes/>), general awareness of PSA tapes as a joining method in consumer electronics is, at 63%, relatively low.

Mike Punter, Managing Director of Parafix, said: "There is no doubt that PSA tapes offer many advantages over traditional bonding methods in terms of delivering improved manufacturing efficiency and productivity.

"However, we face a real challenge in highlighting those benefits to customers who are happy with their existing bonding solutions, even if PSA tapes could be far more suitable for key products.

"We have found the Afera M+V tool is useful in showing when PSA tapes are more appropriate but more work needs to be done to raise the awareness of PSA tapes and ultimately increase the use of self adhesive tape in the consumer electronics market."

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<http://www.parafix.com>