Trend Towards Complex Aluminum Extrusions

Efficient and universal deburring systems at the Aluminium exhibition

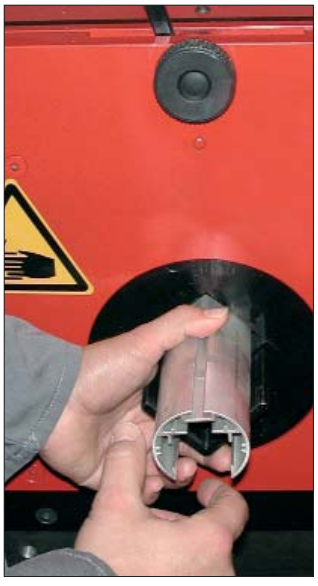
Endeavours of car designers to continue improving consumption and performance values of cars by reducing weight keep the use of aluminum in the focus of technical development. In this connection a trend towards more complex geometries becomes evident. In particular, when steel workpieces are replaced by aluminum extrusions, static and safety-related aspects lead to an ever increasing complex design of extrusions resulting in high demands on production and further processing.

At the industrial exhibition Aluminium 2006 in Essen from September 20 to 22, 2006, RSA Entgrat- u. Trenn-Systeme showed deburring systems particularly developed for aluminum extrusions.

Efficient deburring systems for complex extrusion shapes

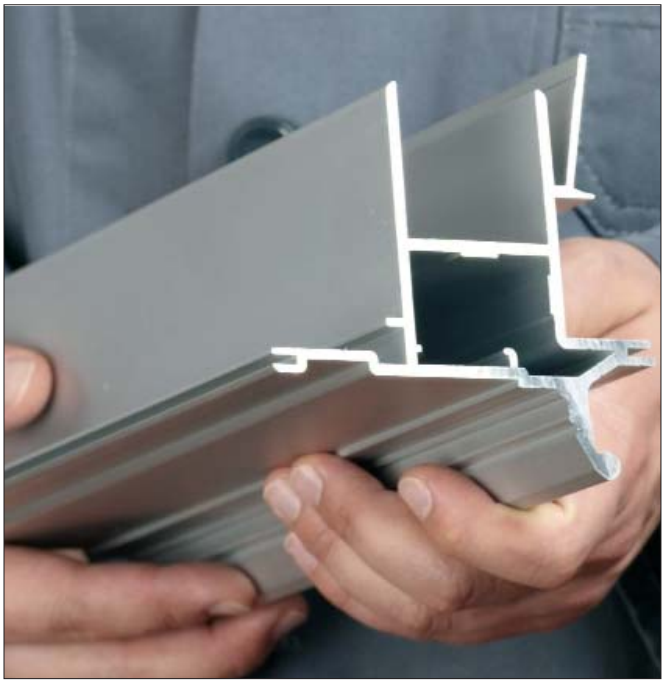
High degree of efficiency becomes evident due to the fact that one tool is sufficient for deburring all possible shapes. Respective machine concepts differ in level of automation. At the exhibition, machines with manual workpiece feeding for the easy deburring of single pieces and small batches were seen in action as well as automatic solutions operating fully automatically with the possibility of linking to other machines.

A second aspect of the efficiency is the extremely short set-up times. Especially versatile production, small batches, or deburring single pieces demand short ancillary times for resetting. As it is not necessary to change the tool, the setting of deburring machines is restricted to the workpiece size.



RSA's special systems deburr all kinds of section shapes within a few seconds by means of one tool.

In case of stand-alone solutions with manual feeding, this is done with only a few manual movements so that set-up is accomplished within seconds. Automatic deburring machines adjust automatically to workpiece parameters, either by entering the height and the length of the workpiece at the operating panel or by taking over the parameters from the preceding machine.



An ever increasing trend is for more and more complex shapes of extrusions.

The third aspect of high rationalization potential is the short deburring time. Independent of the extrusion shape, all edges are properly rounded off inside and outside within a few seconds. Normally deburring takes three seconds per end face in the case of manual feeding. Automatic machines realize cycle times from 2 to 12 seconds for simultaneous deburring of both end faces.

Universal tool for all kinds of extrusion geometries

For optimum deburring of all corners of an aluminum extrusion, RSA has developed a tool similar to a surface brush, but without the well-known disadvantages. Wire trimming of the RSA special brush called RASAMAT is divided into separate segments supported by plates.

This has a significant advantage over conventional surface brushes. Wires do not bend—either through centrifugal force or the work process. Therefore, it is guaranteed that wire tips only reach the ends of the extrusions rather than touch the surfaces.

The result is a perfect deburring result during the whole lifetime of the tool and a workpiece without any damaged surfaces. Even painted or anodized workpieces can be deburred. END