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ROLLFORMING

Sections used in the Electrical & Electronic Industries

A S Shetty

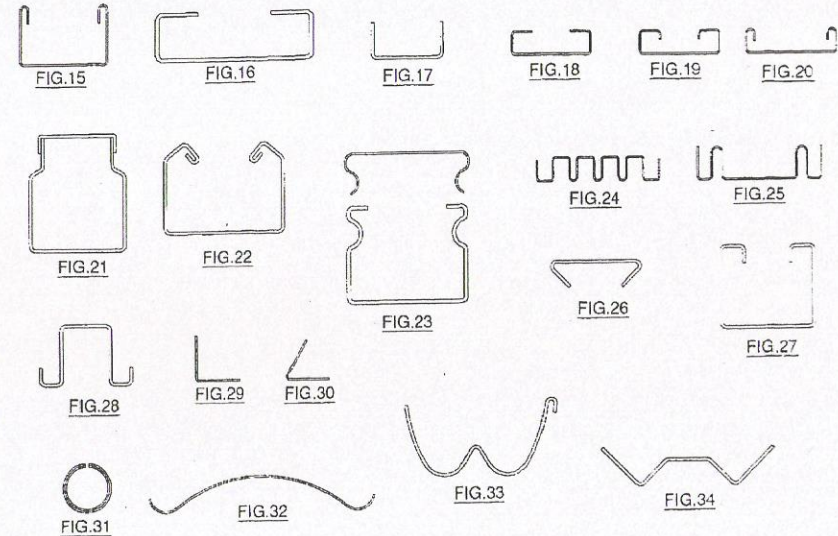
In this Sixteenth series of articles on Rollforming we will discuss about Rollforming of

Sections used in the Electrical and Electronic Industries. On a conservative estimate including small and big there are about more than 600 Electrical/Electronic Control Panel, Switchgear and Instrumentation panel manufacturers in the whole of India. They use different sizes of Hat sections, Channel Sections, Angle Sections, Corner Pillar Sections, DIN Channels, Elemex Sections etc. Only a few of the sizes are standardized and hence there is a great need for standardization of control panel sections in India. Most of the sections are pressed/press braked. Once they are standardized economy in manufacture will occur and it will give a further boost to the mass production of rollformed sections.

Earlier there used to be a great reluctance on the part of users and manufacturers to go for lesser than 2 mm thick panels and sections. In the advanced countries the thicknesses of sections used have mostly come down to 1.2mm. With the proper protective coatings one can go for thinner and stiffer sections in India. Of late a few manufacturers have introduced the latest types of electrical/electronic modular enclosure systems which are getting more and more popular.

Apart from electrical/electronic enclosure sections, DIN Rail sections, Elmex Sections and other sections for fixing terminal blocks are rollformed. The other sections are cable tray sections, tubelight fixture sections, trunking sections, Copper and Steel bus-bars, crane-rail bus-bars, strut systems, sections for telecommunication panels & Lighting reflector sections. Telescopic type TV antenna Mast tubes and Transmission Tower & Flood Light tower truss-structure sections could also be rollformed.

Some of the common type of rollformed sections are shown from Fig.1 to Fig 34. Fig.1 to Fig.4 are sections used for fixing terminal blocks in electrical control panels. Out of these Fig.1 & Fig 2 are commonly known as Elmex and DIN Channel sections respectively. From Fig. 5 to Fig14 are sections used in electrical enclosure systems. Out of these Fig.5 and Fig. 14 are known as



corner pillar sections. Fig. 11 to Fig. 12 are the latest type of enclosure frame sections with punched holes. Instead of Fig.11 a section which requires a very costly rollforming machine sections shown in Fig.12 is made in split format. The Section shown in Fig.11 is another version of the frame section.

The Sections shown in Fig.15, 16 & 17 are Cable Tray sections which are used for routing and supporting all types of light to heavy weight cables. Fig. 18 to 22 are sections used for Tube light fittings. Fig. 23 (Top & Bottom) are trunking and lid sections used in medical applications.

The lid section clip-fits into the Trunking section. There are also different variations of design for Trunking sections which are not discussed here. Fig. 24 & 25 are electrical bus ducting sections. Fig. 26 is copper bus bar section. Fig. 27 & 28 are the sections used in Telecommunication control panels

Fig. 29 & 30 are used as structural sections for transmission towers, floodlight towers for the structural trusses. The angle shown in Fig. 30 with an included angle of 60 degrees has 1.24 times the radius of gyration as against the simple angle. The telescopic sections shown in Fig.31 are used for TV Antenna Mast tubes. Fig.32 & 33 are used as lighting reflectors. The section shown in Fig. 34 are used for RF Shielded Enclosures.

One could conclude from the above mentioned examples that there is still a great scope for increased usage of rollformed sections in electrical and electronic industries in India.

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