

Roofing Sheet and Decking Sections

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In this Twentyseventh series of articles on Rollforming we will discuss about the sections used in Metal Roofs and Deckings which are getting more and more popular day by day. The traditional material used for Roofing sheets for factory buildings, hangers, godowns etc. used to be asbestos sheets. In the advanced countries during the mid 1970's legislation eliminated the usage of many asbestos products including roofing sheets because of its lung cancer causing effect. Hence they were forced to switch over to corrugated galvanised roofing sheets. Since 1980's pre-painted rollformed roofing sheets started replacing the galvanised corrugated sheets.

But in India still the asbestos roofing sheets are in use but slowly the switch over to pre-painted sheets had started and the growth is going to be exponential in the coming years.

In the advanced countries and especially in USA metal roofing systems are being extensively used even for the residential buildings. Prefabricated building concept has taken root in the advanced countries since several decades. Already there are hundreds of metal roofing suppliers in USA and the figure is increasing day by day. In India this concept didn't pick up that fast because of lower labour cost, lesser standardisation of products and also because of the insufficient availability of the required coiled raw material in required widths and thicknesses.

During the last few years several units have come up even for producing galvanised and pre-painted coils and as a result production of roofing sheets is going to pick up exponentially in the coming days.

Roof is an essential part of the building. It plays a very important function of providing safety and shelter like the walls and foundation. It must be sturdy and durable yet stylish. Many a structure is defined by their roofing systems. Metal roofs are lightweight, very easy to maintain, durable and can last upto 50 years and fire-resistant. The energy required to heat and cool the building is less coupled with

efficient insulation. One of the most commonly cited advantages of standing seam metal roofs is their ability to provide water tightness. They can be constructed to meet the highest standard of resistance to wind uplift and hail damage. Because of their solar reflectiveness (as much as 70%) lower cooling requirements are achieved.

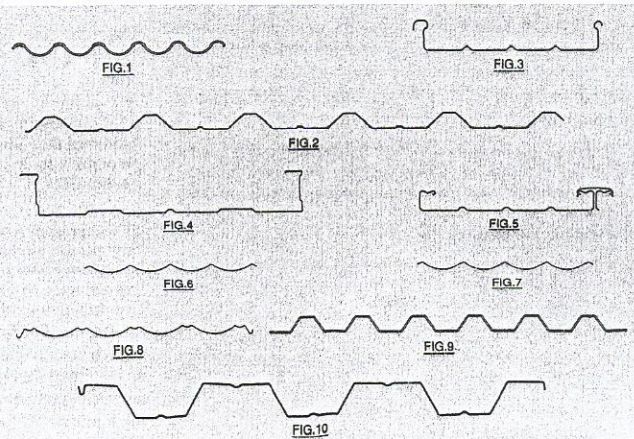
There are also wide range of material choices copper, galvanised or coated steel, stainless steel, aluminium and other coated materials- and several different panel construction options- standing seam, decorative stampings etc. Historically copper was the metal roof of choice. It is resistant to corrosion and it is easy to work and join. It does not have to be painted. Because of its high cost other materials are being preferred. Stainless steel is durable, maintenance free and corrosion resistant. Pre Galvanised and pre-painted steel are mostly used in commercial and industrial applications and is economical, lightweight (1/7th the weight as compared to asbestos sheets) and durable. Aluminium provides a lightweight, corrosion resistant option. It is ductile, malleable and easily worked. Because of the light weight of the roofing sheets as compared to traditional roofing materials like asbestos sheets, tiles etc. a certain amount of structural savings could be achieved.

Fig. 1 to 10 show some of the typical roofing and decking sections used. Fig. 1 shows the commonly used corrugated (sinusoidal) galvanised/ pre-painted roofing sheet. Fig 2 shows, a typical ribbed trapezoidal roofing panel which is pre-galvanised and pre-painted. They are made out of zinc coated or zinc/aluminium coated steel and finally pre-painted. They could be used as roofing sheet as well as wall cladding sheets.

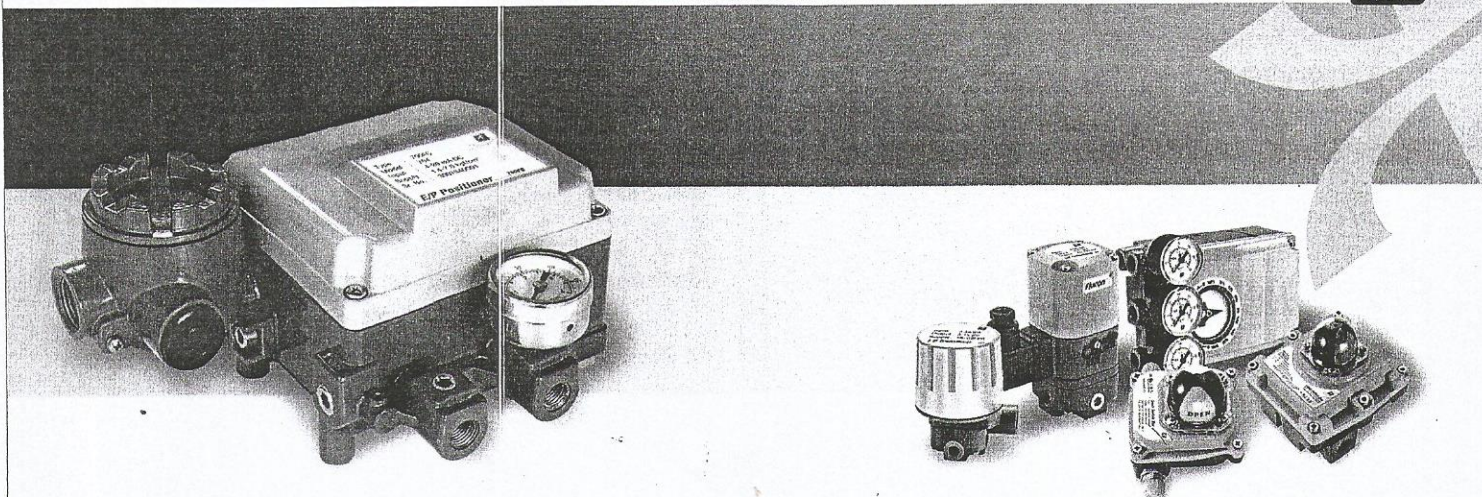
Fig.3, Fig.4 and Fig.5 are some of the

standing seam roofing sheet sections. Fig.3 is patented Kal-Zip section. These give virtually leak-proof joints. Fig.6 Fig.7 and Fig.8 are some of the typical metal tile roof sections. They combine the strength of steel with the timeless beauty of clay tile. The roofing panels can be installed directly to decking. They could be produced in different attractive colours. Fig. 9 and Fig.10 are typical decking sections. They can be used in place of conventional shuttering for fast execution of reinforced concrete construction. They could also be used for roofing and side cladding for industrial buildings and warehouses as well as for composite floor decking for reinforced concrete slabs resulting in savings in reinforcement and erection time. Out of the above, sections shown in Fig.2 and Fig.10 have been developed on the machines supplied by Sedvik Industries, Bangalore.

The sections shown are all part of the pre fabricated building systems which are fast getting very popular in India and the requirement of roofing sheets is going to grow by leaps and bounds in the coming years.



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