
# Man of the month

**R. K. Markan**
MD
H&K Rolling Mill Engineers Pvt. Ltd.

"We have just now finalised our 50th order, 13th in this calender year". R.K.markan was as energetic as ever. I have never seen this man looking tired any time even at the age of 65. I guess, he is only as old as his technology organisation, H & K Rolling Mill Engineers, which incidentally completed 20 years in May 2005. In this exclusive interview, Mr.Markan shares his views on various aspects of the industry.

**SW : Twenty years is a long span. What was the situation when you started Thermex activity?**

**RKM :** Yes, twenty years is a long period for any activity. When I first started talking about Thermex Quenching Technology in 1984-85 in conferences and seminars, there was excellent newspaper coverage but very poor response from industry. It soon became apparent that it was going to be long and tough journey to achieve any meaningful breakthrough. It has been a focussed and dogged pursuit of "changing the type of rebars used in the country". Fortunately, H&K was also introducing world class rolling mill equipment such as stop-start shears, grip tilters etc. This, alongwith my rolling mill experience at Mukand, helped us to survive till the breakthrough – the major order from Durgapur Steel Plant of SAIL for their merchant mill.

**SW : Presently, what are the standards followed in various parts of the world on TMT rebars?**

**RKM :** First I must point out that no country, has a standard based on a specific process (with the exception of India which had termed its IS 1786-1979 *"Specification for cold worked steel high strength deformed bars for concrete reinforcement"*). Civil engineers are concerned only with properties of rebars, and rightly so, not how they are made. So, to the best of my knowledge, there is no standard for 'TMT' rebars in any country. Further, India is the only country that calls 'quenching and tempering' (Q&T) or "quenching and self tempering" (QST) process as "thermomechanical treatment" (TMT) as was done by the Committee for IS 1786-1985. This in turn, as everyone *now* knows, has led to a major headache for civil engineers in the country.

Second, about standards in general, I believe that most national standards are similar in nature. The one country that has refused to blindly 'follow' others is New Zealand. They tread on a new path – and today all countries are revising their Codes on lines similar to the New Zealand Code 4671 of 2001.

**SW : In one of 'Steelworld' conferences, you were the only one arguing that India would consume not less than 150 mt per year in 2020. Do you still adhere to this view? What would be the share of TMT bars in 2020?**

**RKM :** Actually, I am of the opinion that we will need about 200-210mt by 2020 based on a per capita consumption of 150kg but I had mentioned 140-150mt only because of the strong opposition to even the low JPC figure of 100mt in 2018. A suggestion of 200mT at that Steelworld Conference in March 2004 would have shocked the delegates. Just imagine, the present per capita consumption is a meagre 30 kg and a suggestion from me that this figure would change to 150kg would have

had all the delegates up in arms.

I place the demand for QST (not 'TMT') rebars in 2020 at about 35-40 mT.

**SW : What are the present BIS standards for TMT bars? Do you have any suggestions on this?**

**RKM :** Personally I believe the present Indian Code IS: 1786-1985, is a poorly drafted one and does not ensure safety of citizens - fortunately, the same is being revised. But, I was most alarmed on reading the proposed 'draft' of the revised Code which was kindly sent to me by a friend. It appears that the Committee that prepared the Draft of proposed Code has taken great pains in making the Code a very complicated & confusing one instead of introducing simplicity for easy implementation. Against the present 3 Grades of rebars, they are introducing a total of SEVEN! Worse still is the failure to recognise that ductility of high strength rebars is the main concern for a country such as India – over 50% of the country falls under seismic zones 3, 4 & 5. Finally, the confusion is compounded by the fact that they have suggested different ways of measuring ductility for different Grades! If this Code is ever introduced there is going to be TOTAL CONFUSION. Lastly, the Committee seems to suggest that changes are based on the ISO and BS Codes. Surely the members of the Committee are aware that these Codes are themselves being revised! Revisions should be for improvement and not for taking a step backwards.

I feel there should be only two strengths in the Code e.g Grade 350 & Grade 500. The Elongation should be stated either in terms of 'Total Elongation' or 'Uniform Elongation'. You cannot and should not have both 'total' and 'uniform' elongation in a Code. This defies logic.

In a country, such as India, we can introduce a special Grade for seismic zones after 2 or 3 years and after proper education of the engineers. The civil engineers have been given only one Grade, Fe 415, for the past 20 – 25 years with low ductility (14.5% total elongation) and now the Committee for IS 1786


suddenly desires that the engineers adjust to a plethora of parameters. One can foresee the disaster in the years ahead – if the draft is adopted.

Instead of what has been proposed by the Committee, they should have merely gone in for 2 Grades with a minimum total elongation of 17 or 18% so that the bars are safe even for seismic zones.

**SW : International patents are supposed to have a life of twenty years. What is the status of 'Thermex' patent?**

**RKM :** Yes, the life of a patent is twenty years (15 in some countries). Thus, the original patent for the Thermex process is over. But, there are still many other Thermex related patents which continue to be valid even today.

There has been some confusion and misinformation in India in this regard. Engineers seem to think that because the Thermex patent for the process has expired about a year ago they have the legal right to copy the designs of equipment! Proprietary designs are protected by Copyright Act in much the same way as articles published in print media (such as your magazine), papers at seminars, books, original designs of fashion designers etc. Patent is for the 'process' and Copyright is for original creative work such as designs, books, lectures & articles etc.

**SW : Indian re-rolling industry has come a long way. Generally, how do you see the prospects of re-rolling industry in India for the coming decade? Any special comments ?**

**RKM :** It has been a slow progress, but the re-rolling mill industry has indeed come a long way in recent years. Mill owners today desire modern equipment with modern technologies. And, with my projections of a demand/ consumption of 40 mT of rebars in 2020 we can expect massive investments in the coming years.

My only area of concern is the acute shortage of trained, experienced and skilled personnel to run modern mills or employ current global technologies. I have seen many entrepreneurs lose a lot of money due to these factors. India can ill-afford such losses. ❑❑❑