

Abstract of IRMA Chairman's Speech at National Seminar on "Refractories for DRI Process"

It is my proud privilege as Chairman of IRMA, the national body for the refractories industry in India to be present in today's National Seminar on "Refractories for DRI Process".

Before going into the details of the critical role being played by the refractories in ensuring the spectacular growth of the sponge iron industry in the last decade, I would like to briefly highlight the current economic glut in the business scenario that is a cause of concern for all of us. To understand this crisis and also to face the challenges of this uncertain world let me share with you the story of "BLACK SWAN" which I have shared in many other platforms. One of the Western misconceptions was 'All swans are white'. So a black swan was a metaphor for something, which could not exist. A Dutch explorer Willem de Vlamingh recorded the sighting of the first black swan for the first time in 1697. The discovery of the black swan along Australia's west coast in the late 17th and early 18th centuries led to the shattering of the age-old metaphor. The famous Black Swan theory developed by Nassim Nicholas Taleb is perfectly applicable to describe the present economic condition which refers to any event that is rare, has an extreme impact, and is explainable and predictable - but only in hindsight. The present global financial crisis is exactly the same and we can expect in next 12 months

- (a) The global economy is likely to enter a period of negative growth
- (b) Equity markets are expected to be weak in the near to medium term
- (c) Lower demand trends
- (d) Lower prices
- (e) Lower credit availability
- (f) High cost of capital &
- (g) Currency volatility.

We are certainly living in a "VUCA" world (Volatile, Uncertain, Complex and Ambiguous). 2008 started out well enough with growth figures approaching 10%. However, with the massive financial troubles which began towards the end of 2008, the growth prospects of 2009 looks uncertain. The Asian Development Bank (ADB) has projected growth of a mere 6.5%. Previously, it had forecast 7%, down from another earlier estimate of 7.4%. The RBI Governor has also cautioned that 2009 could turn out to be the worse performer. However I strongly believe that Indian economy has its fundamentals all intact to stage a bounce back. If we analyse the business trends from early October to middle of January, the best part of the economy is its resilience, of course with a little help in the form of fiscal actions from the government to reverse the slow down. Looking ahead, we need to admit that there are some tough times for the Indian economy, at least during the next two-three quarters. But we are on a much better wicket compared to many other countries to weather the storm, particularly because of the strong push from some key drivers of growth, like infrastructure and banking (which was firmly protected from speculative capital movement).

Refractories have always played a critical role in the development of Indian economy but sadly it has never received its due recognition because of its insignificant size compared to its key user industries like steel, cement and aluminium.

Many times we gloss over the fact that of the 54 million tonnes of steel produced in the country last year, almost 57% came from the secondary route. Today, the Secondary

Producers Segment is a distinctly heterogeneous one, not only in its composition but also spread, capacity level, capacity utilization and production/items of production. It is comprised mainly of Mini Blast Furnace units, Sponge iron producers, Induction Furnace and Electric Arc Furnace units etc.

In recent years, it is the growth of the sponge iron industry especially in the mineral rich regions of Orissa, Jharkhand, Chattisgarh, West Bengal, Karnataka that has been truly spectacular. Such a growth has been favoured by a host of factors like growth in domestic steel demand, a vigorous growth in domestic steel production led by the secondary steel making sector; techno-economics like relative low cost of investment, ease of setting up of a sponge iron plant, clear-cut technology of direct reduction, better quality in end-product; availability of mineral resources, cheap labour as well as professional / technical expertise, frequent problems of scrap (affordability and availability) etc. The following figure illustrates the growth of sponge iron in India.

Year	Production		
	Total	Gas based	Coal based
2004-05	10.13	4.64	5.49
2005-06	11.82	4.54	7.28
2006-07	16.27	5.26	11.01
2007-08	19.99	5.85	14.14
2008-09 (Estimated)	21.00	7.00	14.00

While there has been a slowdown in the growth rate for the year 2008-09 for obvious reasons, the overall figure indicates that there is ample scope of development in the coming years.

The coal fired DRI rotary kilns are more popular in India especially in the eastern parts of the country due to non-availability of gas. The LCC monolithic solution is preferred in these cases for its ability to withstand the forces of wear and tear caused by the usage of low quality coal. While the specific consumption of refractory will see a further decrease, I am confident that the overall growth in the DRI sector will have a positive impact in refractory consumption pattern.

I hereby quote some data on the production of monolithics, LCC, ULCC etc in India.

Year	'03-04	'04-05	'05-06	'06-07	'07-08
Pre-Cast Blocks/Monolithics/LCC/ULCC (m.t.)	26776	67977	93405	107651	120161

The figure clearly shows that there has been a sharp rise in production of castables a part of which was certainly buoyed by flourishing sponge iron industry.

Increased production brings increased responsibility to refractory makers and there are specific challenges in the DRI sectors like improving the durability of LCC and restricting the rate of accretions. The Indian refractory makers have always focussed their efforts on the operational requirements of the user industries to optimise the refractory lining life. It has been our experience that in many cases refractories are being 'abused' instead of being used. In DRI industry, refractory wear is dependent upon kiln size, iron ore feedstock quality and coal quality and a detailed understanding of the operational parameters of the producers is needed for developing customized refractory solutions. We need to further dovetail our efforts

in understanding the requirements of our users from the sponge iron industry and undertake sustained R&D efforts for better lining life and improved repairing techniques. Research institutes like CGCRI and DISIR have a critical role to play in this respect. I am confident that this seminar will provide that much-needed interface between the refractory makers, the research bodies and the sponge iron makers.

As Chairman of IRMA I assure you that the industry is fully geared up to accept the challenges and compete in terms of quality and performance and has the added advantage of ready accessibility of providing after sales support and services

Before concluding I would urge the respected members of the sponge iron industry who are present in this august gathering to treat us as “strategic partners” in the path of development. Refractory and sponge iron industries have a symbiotic relationship and we need to further strengthen this relationship in view of the volatile days ahead. It is a well-established fact that sponge iron is one of the sinews of the steel production in India, and the strength and competence of Indian refractory makers needs to be embedded into this sinews to create a more vibrant steel sector. I feel sure that I will have the goodwill and support of the senior representatives of the sponge iron industry as well as my colleagues in the refractory industry to carry forward this idea.