

(LRPC) Low Relaxation Pre-stressed Steel

INVESTMENT OPPORTUNITY SCORECARD

September 2022



Metals (LRPC) Low Relaxation Pre-stressed Steel

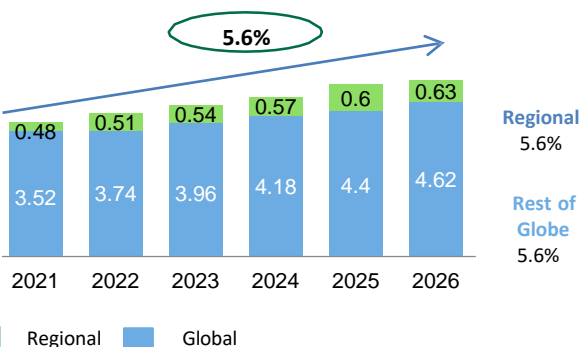
OPPORTUNITY DESCRIPTION: Opportunity to develop an exclusive (LRPC) Low Relaxation Pre-stressed Steel assembly line of 10,000 MT to cater regional and global demand.

LRPC stands for Low Relaxation Pre-stressed Steel Strand, when embedded in concrete it release some applied stress exponentially.

DEMAND

MARKET SIZE, Bn USD

CAGR



INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected investment size of USD 10-20 Mn
- Plant capacity: 10 KTPA
- Investment model options: The investment model can be through a pure private sector model, banks and institutional investors can provide the upfront capital investment, or through a JV with steel producers
- Investment specific for Low Relaxation Pre-stressed Steel assembly line

VALUE PROPOSITION

- The KSA is the largest economy in the GCC region. The expansion and revamping of the Kingdom's cities , infrastructure – placed in the center of its 2030 Vision- and transport shall rely heavily on the usage of LRPC strands domestically.
- The rising popularity of prefab or offsite construction in the construction industry, especially in rural areas is expected to further drive the product demand in The Kingdom.
- These projects, along with housing projects and mega real-estate projects such as NEOM are the main growth factors.
- Furthermore, in line with the government policy to promote infrastructural investments, the product shall serve as a pillar for construction.

KEY DEMAND DRIVERS

- LRPC Strands are used as a replacement of traditional material such as rebar and wire rod.
- Low Relaxation PC Strands are used in the pre-stressed concrete girders for road, flyovers, river and railway bridges, pre-stressed concrete domes, hollow core slabs, beams and TT slabs, silos, hangers, aqueducts, viaducts and railway sleepers.
- LRPC Strand induces a reduction of 10% in steel requirements, as well as anchorages, ducts, sheathings, and wedges.
- Through reduced man hours and lessening project cost, the product is a necessity for reducing size of structural members reduction in concrete and reducing overall project price.

MARKET OVERVIEW

GLOBAL TRENDS

- The (LRPC) Low Relaxation Pre-stressed Steel overall demand was around 4 Bn USD in 2021 and expected to reach 5.25 Bn USD by 2026 growing at a CAGR of 5.6% from 2021 to 2026.
- Europe, North America and Asia Pacific regions account for most of the market (more than 70%), with the US and China being key demand regions. The rise in infrastructure development expenditure along with the new housing initiatives from governments and private firms has provided massive potential for the LRPC.
- The recovery of the construction market post covid has also boosted the demand for the product, pertaining to lower project cost and lessened man hours.
- Latin America, Middle East and African markets are merging markets, representing around 30% of the global demand, which could increase with new investments. The GCC region is expected to grow rapidly due to huge opportunities in the construction sector, with the presence of large-scale mega projects.

SUPPLY

SCALABILITY AND LOCALIZATION

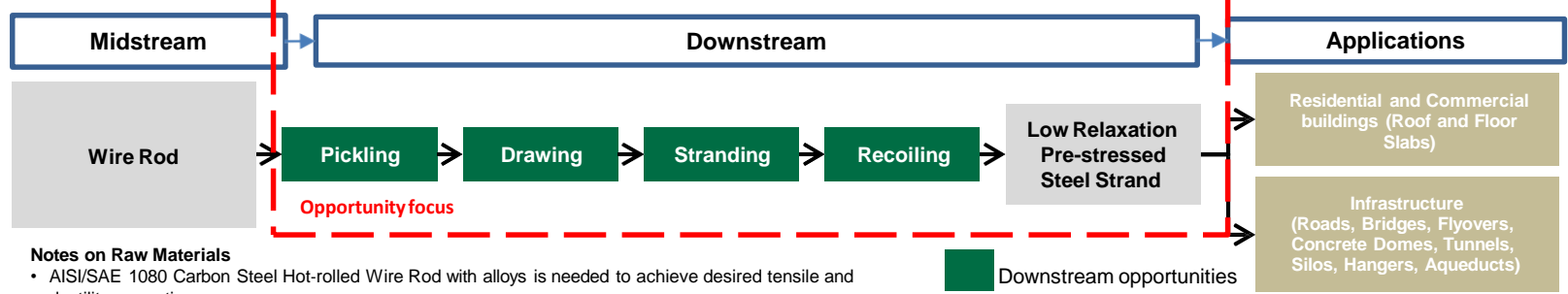


- The increasing urbanization and housing requirements in the KSA is the main factor contributing to the demand of LRPC.
- New projects within the Kingdom as well as infrastructure initiatives shall further increase demand with lower cost of production, labor wages and utility fees. These factors can support low capital and operating expense for the investor and enable extending geographic footprint.
- The availability of end-to-end logistics connectivity shall further support investment development.

IMPORT DEPENDENCY

- Around 5.5 KMT imports in 2021 was observed.
- This is a value-added downstream product with good future potential directly linked to infrastructure development

VALUE CHAIN ANALYSIS



Notes on Raw Materials

- AISI/SAE 1080 Carbon Steel Hot-rolled Wire Rod with alloys is needed to achieve desired tensile and ductility properties.

Other Considerations:

- Wire rods used to make PC Strand are between 3/8" – 1/2" in diameter.
- Typical wire rod coils are 1.6 NT – 2.8 NT.

Downstream opportunities

KEY STAKEHOLDERS



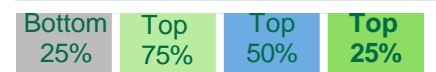
ENABLING FACTORS

ENABLERS

- The KSA announced a trillion-dollar pipeline of infrastructure projects aimed at diversifying the economy in areas such as smart cities, tourism, and clean energy.
- Vision 2030 has resulted in close to US\$1 trillion of real estate and infrastructure projects being announced across Saudi Arabia since the year 2016.

COST OF DOING BUSINESS IN KSA

Factor	Ranking Amongst Regional Peers
Electricity tariffs for industrial players	\$48 /MWh
Productivity adjusted wages	\$3.3 /hour
Logistics Performance Index (1 – 5)	3.2
Customs Clearance Index (1 – 5)	2.7
Ease of getting credit (0 – 100)	50



DEFINITIONS

#	SCORECARD SECTION	DEFINITIONS
1	Market size	Size of market in value/volume in KSA and/or Region (MENA/GCC) covering future projections based on available estimates from published /government sources
2	Demand drivers	A select number of factors that will influence future demand for the related product/service
3	Investment highlights	An overview of key financial metrics summarizing the investment opportunity along with the expected return based on the suggested investment size
4	Value proposition	Summary of key differentiators that position KSA as a strategic choice over other regional/global peers
5	Market readiness	An overview of KSA market structure, market maturity and level of participation by local and global players
6	Competitor analysis	List of the local & international players manufacturing the underlying product in Saudi Arabia and their market share
7	Global trends	Latest business developments within the sector/product category
8	Scalability and localization	Ease of scaling the business across the value chain or into new adjacent products or geographies that would maximize the opportunity's investment returns and the ability and potential to locally manufacture the product and its components
9	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
10	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
11	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
12	Enablers	Factors that enable investment in the underlying opportunity
13	Cost of doing business in KSA	Key factors that position KSA as a competitive destination for investment in the region. Productivity adjusted wages do not include cost of \$1.23/hour towards annual recurring charges including work permit, resident identity (iqama) and health insurance

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