Basekim
Chemical Production Co.Ltd.

SPECIFICATION FOR STEEL REBAR

1. GENERAL INFORMATION

- **Product Name:** Steel Reinforcing Bar (Rebar)
- **Standard Specification Codes:** ASTM A615, ASTM A706, BS 4449, ISO 6935-2, JIS G3112, IS 1786
- **Material Type:** Carbon Steel / Low-Alloy Steel
- **Application:** Used in reinforced concrete structures for construction projects such as buildings, bridges, roads, and infrastructure.

2. MATERIAL COMPOSITION

Element	Percentage (%)
Carbon (C)	0.15 - 0.40%
Manganese (Mn)	0.50 - 1.50%
Silicon (Si)	0.15 - 0.80%
Sulfur (S)	≤ 0.05%
Phosphorus (P)	≤ 0.05%
Other Trace Elements	< 0.10%

3. MECHANICAL PROPERTIES

Property	ASTM A615 (Grade 40)	ASTM A615 (Grade 60)	ASTM A706
Yield Strength (MPa)	280	420	420
Tensile Strength (MPa)	420	620	550
Elongation (%)	12% min	9% min	14% min
Bend Test	No cracking	No cracking	No cracking

4. DIMENSIONS AND TOLERANCES

- **Nominal Diameter:** 6mm, 8mm, 10mm, 12mm, 16mm, 20mm, 25mm, 32mm, 40mm
- **Length:** Standard 6m, 9m, 12m, or as per customer requirements
- **Tolerance on Diameter:** ±0.5% of the nominal diameter
- **Weight Tolerance:** ±4.5% of the theoretical weight

5. SURFACE CHARACTERISTICS

- **Surface Finish:** Ribbed or deformed to improve bond strength with concrete
- **Coating Options:** Uncoated (black), epoxy-coated, or galvanized
- **Rust Resistance:** Epoxy and galvanized coatings available for corrosion protection

6. CHEMICAL AND PHYSICAL TESTING REQUIREMENTS

- **Tensile Strength Test:** Conducted as per ASTM/ISO/BS standards

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- **Bend and Re-bend Test:** Evaluates ductility and flexibility
- **Chemical Composition Test:** Ensures compliance with material standards
- **Weight and Dimension Test:** Verification of tolerance limits
- **Corrosion Resistance Test:** For epoxy-coated or galvanized rebar

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7. PACKAGING AND DELIVERY

- **Packaging:** Bundled and tied with steel wire
- **Marking:** Manufacturer's name, grade, heat number, and size printed on bundles
- **Storage and Handling:** Store in a dry environment to prevent rusting
- **Transportation:** Shipped in bulk or as per customer specifications

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8. COMPLIANCE STANDARDS

- **ASTM A615 / A706:** American standard for reinforcing steel bars
- **BS 4449:** British standard for reinforcement steel
- **ISO 6935-2:** International standard for steel reinforcement
- **IS 1786:** Indian standard for high-strength deformed bars
- **JIS G3112:** Japanese standard for reinforcing bars

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9. APPLICATIONS

- **Infrastructure Projects:** Bridges, tunnels, dams
- **Commercial & Residential Buildings**
- **Industrial Foundations and Heavy Construction**
- **Roads, Highways, and Pavements**
- **Seismic-resistant structures (for ASTM A706 grade)**

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10. ADDITIONAL REMARKS

- Steel rebar must be stored properly to avoid rusting and contamination.
- Welding should be performed as per applicable standards if required.
- Custom sizes and specifications available upon request.

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