CHRŌMX 9000 ® SERIES

# REINFORCING STEELS BY MMFX

### ChrōmX 9000 Series
## HIGH STRENGTH REBAR AND CORROSION RESISTANT REBAR

### Unmatched Value from Beginning to End

ChrōmX® 9000 Series (ChrōmX 9100 and 9120) concrete reinforcing steels offer both high strength and corrosion resistance solving difficult design and construction challenges. Utilizing high strength of ChrōmX 9000 steel can relieve rebar congestion, lower material requirements, and save construction time and labor. The product's corrosion protection extends the service life and reduces the life cycle cost for concrete structures even in highly corrosive environments. Its uncoated corrosion protection means no additional cost from special handling, coating inspection and repair.

## HIGH STRENGTH REBAR WITH DUCTILITY

The unique microstructure of ChrōmX 9000 Series reinforcing steel achieves the 100 and 120 ksi [690 MPa and 830 MPa] yield strengths of the ASTM A1035 specification, while maintaining excellent ductility and tensile-to-yield ratios above 1.25. The design guidance for using high strength steels up to 100 ksi [690 MPa] yield within the AASHTO LRFD Bridge Design Specifications, as well as ACI ITG-6R, ICC-ES AC429 and ICC-ES ESR-2107 allows engineers to design bridges and other concrete structures with Grade 100 [690] steel. Utilizing the high strength properties of ChrōmX 9000 steel can lower initial material costs, solve rebar congestion issues and save construction time and labor costs, by:

- Reducing Steel and Concrete Volumes
- Improving Concrete Pouring Efficiencies
- Lowering Rebar Placing Costs
- Reducing Placing Time
- Lowering Cage Weights
- Saving on Couplers
- Improving Jobsite Transit, Storage and Logistics

20160414f

MMFX® STEEL DMCC TODAY'S STEEL STANDARD

For more information +971 43412700 | www.mmfx.com

# CHRŌMX 9000 ® SERIES

## UNCOATED CORROSION RESISTANT

**Designing with ChrōmX 9000 Rebar up to 100 [690 MPa] ksi Yield**

### GRADE 100 [690] DESIGN GUIDELINES REFERENCES

**ACI Design Guide and Codification Recommendations**
ACI ITG-6R "Design Guide for the Use of ASTM A1035/A1035M Grade 100 [690] Steel Bars for Structural Concrete"

**ICC Specifications for Commercial Construction**
ICC-ES AC429 "Acceptance Criteria for High Strength Steel Reinforcing Bars"

**ICC-ES Report for ASTM A1035**
ICC-ES ESR-2107
"ASTM A1035/A1035M Grade 100 [690] Steel Reinforcing Bars"

**AASHTO LRFD for High Strength Bridge Designs**
AASHTO LRFD Bridge Design Specifications "Bridge Design Code for the Use of ASTM A1035/A1035M Grade 100 [690] Steel Bars for Bridge Structures"

### GCC Approvals

- Qatar Construction Specification, QCS 2014, Qatar
- Municipality of Abu Dhabi, UAE
- Trakhees, Department of Planning & Development, Dubai, UAE
- Abu Dhabi Department of Transport, Design Code for Maritime Infrastructure
- Abu Dhabi City Municipality Roadway Design Manual
- Abu Dhabi City Municipality Standard Specifications
- Dubai Municipality Product Conformity by the Dubai Central Laboratory, DCL, Certificate No. CL 16020331, Dubai, UAE as produced by Star Steel LLC

### Corrosion Protection: 100+ Years of Service Life

ChrōmX 9000 reinforcing steels have been independently proven to exceed the 100-year service life without repair requirement that is now being specified in bridge and infrastructure projects by many DOTs and public agencies in North America. Forward thinking owners are realizing that historical rebar options are not standing the test of time in corrosive environments and they are working to avoid the burden of high maintenance costs. Solid stainless steel rebar can also meet this lifetime requirement but the higher price is seldom justified when ChrōmX 9000 rebar provides the 100+ year solution at significantly lower costs.

### Smart Money – Life Cycle Cost

Prudent owners and experienced design and construction professionals look at more than just the initial cost of materials when deciding on the best reinforcing steel options. Using life cycle cost analyses, many public agencies and private owners have found that using better materials, such as ChrōmX 9000 rebar, can save them millions of dollars in future maintenance and rehabilitation costs when compared to standard or epoxy coated rebar. It does not take a lifetime to realize these savings. The benefits of ChrōmX 9000 are realized in the first 20-30 years when repairs would be required if traditional rebar products were used.

### No Special Handling Requirements

Uncoated ChrōmX 9000 provides all of its corrosion protection benefits without the labor intensive special handling requirements, field coating inspections and repairs, or special fabrication needs of coated rebar. The ductile high strength nature of ChrōmX 9000 steels allows the rebar to be cut and bent using standard fabrication equipment and accepted industry practices. ChrōmX 9000 steels feature all the ease of construction found in standard grade black bar – with all the benefits and superior performance of a technically advanced product.

### Specifying ChrōmX 9000 Rebar

ASTM A1035 CL Grade 100 [690] or 120 [830]

### The ChrōmX Family

ChrōmX 2000 Series and 9000 steels, provide high strength with varying levels of corrosion resistance, so designers can utilize the high strength efficiencies and best match the corrosion protection requirements of a given project. Both Chrōmx steels can be used together to build quality structures most efficiently.

DCL DUBAI MUNICIPALITY DUBAI CENTRAL LABORATORIES
PRODUCT CONFORMITY
ASTM A1035
Certificate No. CL16020331

MMFX STEEL DMCC



**MMFX Steel DMCC**
The Dome Tower, Office 1003, Jumeirah, Dubai - UAE
Telephone +971 43412700
www.mmfx.com