

領路先行 盡善盡美
A RAIL TRANSIT LEADER STRIVING FOR EXCELLENCE



CRHIC
中铁工业



地址/ADD:

河北省秦皇岛市山海关区老龙头路35号
No.35 Laolongtou Road, Shanhaiguan District,
Qinhuangdao City, Hebei Province, P.R.China

邮编/Zip Code : 066205

邮箱/E-mail : impexp@crsbg.com

电话/Tel : +86-0335-7940134/7940207/7940210/7940601

传真/FAX : +86-0335-7940032

网址/Web-site : www.crsbg.com

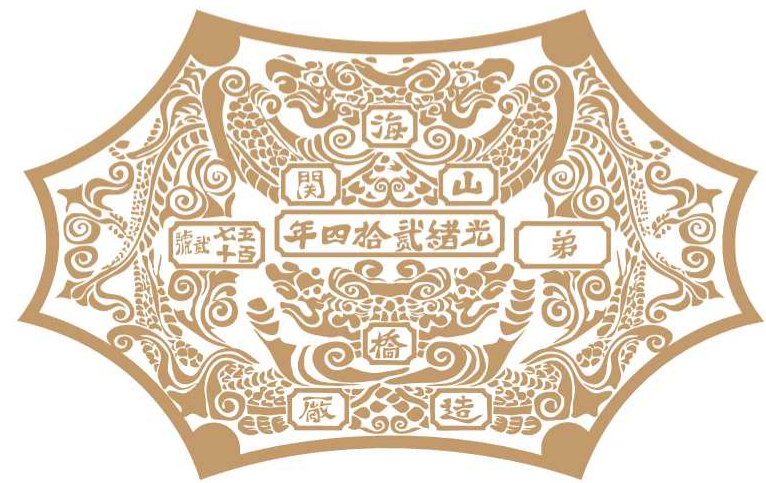


中铁山桥

中铁山桥集团有限公司

CHINA RAILWAY SHANHAIGUAN BRIDGE GROUP CO.,LTD.

CHINA
RAILWAY
SHANHAIGUAN
BRIDGE
GROUP CO.,LTD.



钢桥的摇篮 道岔的故乡

Cradle of Steel Bridge Hometown of Railway Turnouts

PHILOSOPHY 企业理念

企业精神 / SPIRIT

领路先行 尽善尽美
A rail transit leader striving
for excellence

企业愿景 / Corporate Vision

行业领先的桥梁钢结构和铁路道岔制造企业
An industry-leading company specializing in the
manufacturing of steel structures for bridges and railway turnouts

企业使命 / MISSION

兴业报国 兴企为民
Developing Enterprise to serve the
Country and the People

企业责任 / RESPONSIBILITY

传承民族工业血脉 打造中国制造品牌
Inheriting National Industry Spirit
Creating Chinese Manufacturing Brand

CONTENTS 目录

01

企业概况

COMPANY
PROFILE

PAGE 01

03

技术创新

TECHNOLOGY
INNOVATION

PAGE 27

05

质量控制

QUALITY
CONTROL

PAGE 33

02

产品业绩

PRODUCT
PERFORMANCE

PAGE 07

04

先进装备

ADVANCED
EQUIPMENTS

PAGE 29

06

资质荣誉

CERTIFICATES
& AWARDS

PAGE 35





01 COMPANY PROFILE

企业概况

关于我们

中铁山桥集团有限公司（简称“中铁山桥”）始建于1894年，是中国建厂时间最早、实力最强的铁路道岔和桥梁钢结构制造企业，累计制造钢桥3200余座、铁路道岔40余万组，被誉为中国“钢桥的摇篮 道岔的故乡”。

我们的位置

我们位于万里长城的起点——东濒渤海、北倚燕山、南临碣石，被誉为“天下第一关”的山海关，是中国具有重要历史和文化价值的地方。

我们的产品和服务

我们专业从事道岔产品及其配套零部件的研发、设计、制造、安装及售后维护，主营产品涵盖高速铁路、重载铁路、城市轨道交通以及厂矿铁路专用线等领域。我们全程参与了中国铁路六次大提速，中国铁路提速道岔均率先在公司研制成功；研制的时速350公里系列道岔产品广泛应用中国高速铁路网，成功应用于雅万高铁、匈塞铁路等国际项目；开发的重载高锰钢系列辙叉产品平均通过总重达到3.5亿吨。我们还生产大跨度桥梁钢结构和集装箱门式起重机产品，产品出口30多个国家和地区。130年来，我们提供高质量、高性能的产品，赢得了客户的广泛信赖与认可。

我们的实力

我们拥有6000吨压力机、52米数控铣床、50米数控钻床、先进的智能道岔自动化生产线、纯净钢辙叉生产线和道岔垫板智能生产线，具备高速、重载道岔研发设计，高致密度高锰钢辙叉、高锰钢辙叉与钢轨焊接、锰钢铸件硬化、钢轨热锻及精细加工等核心技术优势。

我们的员工

我们拥有员工3400余人。其中，各类经营管理和专业技术专家1128人，技术研发人员占比35%，正高级工程师14人、高级工程师245人、工程师249人，专业技能人才2252人，为制造高品质产品提供了可靠的人才保证。

我们的认证

我们建有CNAS认可和CMA认证的检测实验室，通过了ISO9001、ISO14001、GB/T28001、欧盟TSI、英国UKAS、美国钢结构认证、德国DVC、美国铁路协会AAR、AWS和加拿大焊接CWB等国际权威机构的资质认证。

我们的责任

我们践行绿色可持续发展的社会责任，优化ESG生态系统，创新绿色低碳技术，提供绿色产品服务，打造国家绿色工厂，培育绿色低碳产业。我们创造利润，回报股东，回馈员工，遵守商业道德、生产安全、职业健康等方面要求，保护劳动者的合法权益，节约资源，持续为社会赋能，共建可持续发展的美好未来。



About us

China Railway Shanhaiguan Bridge Group Co., Ltd.(hereinafter referred to as CRSBG)was founded in 1894. It is China's earliest and most powerful railway turnouts and steel structure bridge manufacturing enterprise. It has manufactured more than 3,200 steel bridges and more than 400,000 sets of railway turnouts. It is known as China's 'Cradle of Steel Bridge and Hometown of Turnouts'.

Our position

We are located at the starting point of the Great Wall - Shanhaiguan, which is bordered by the Bohai Sea in the east, Yanshan in the north and Jieshi Mountain in the south. It is known as 'The First Pass Under Heaven ' and is a place of important historical and cultural value in China.

Our Products and Services

We specialize in the research and development, design, manufacturing, installation and after-sales maintenance of turnouts products and other spare parts. Our main products cover high-speed railways, heavy-haul railways, urban tramway, and factory-mine railway dedicated lines. We have participated in the six major speed-up-upgrades of China's railways. All of China's railway speed-up turnouts were firstly developed by our company. The 350 km/h series of turnouts products we developed are widely used in China's high-speed railway network and have been successfully used in international projects such as the Jakarta-Bandung High-Speed Railway and the Hungary-Serbia Railway. The heavy-haul high manganese steel frog products we developed have an average total transit volume of 350 million tons. We also produce long-span bridge steel structures and container gantry crane products, which are exported to more than 30 countries and regions. For 130 years, we have provided high-quality and high-performance products and won the trust and recognition of our customers.

Our capability

We own 6,000-ton press machine , 52-meter CNC milling machines, 50-meter CNC drilling machines, advanced intelligent turnouts automation production lines, pure steel frog production lines and turnouts baseplates intelligent production lines. We have core technical advantages such as high-speed and heavy-haul turnouts R&D and design, high-density high-manganese steel frogs, high-manganese steel frogs and rail welding, manganese steel casting hardening treatment , rail hot forging and precision processing.

Our employees

We have more than 3,400 employees. Among them, there are 1,128 various management and professional technical experts, 35% of whom are technical R&D personnel, 14 professor-level senior engineers, 245 senior engineers, 249 engineers, and 2,252 professional and skilled personnel, providing a reliable talent guarantee for manufacturing high-quality products.

Our certifications

We have built a test laboratory accredited by CNAS and certified by CMA, and have passed the qualification certifications of international authoritative organizations such as ISO9001, ISO14001, GB/T28001, EU TSI, UKAS, US Steel Structure Certification, German DVC, American Railway Association AAR, AWS and Canadian Welding CWB.

Our responsibility

We practice the social responsibility of green and sustainable development, optimize the ESG ecosystem, innovate green and low-carbon technologies, provide green products and services, build national green factories, and cultivate green and low-carbon industries. We create profits, return to shareholders, give back to employees, comply with business ethics, production safety, occupational health and other requirements, protect the legitimate rights and interests of workers, save resources, continue to empower society, and build a beautiful future of sustainable development.



山海关基地
(Shanhaiguan Base)



中铁山桥（南通）有限公司（南通基地）
CRSBG (Nantong) Heavy Industry Co., Ltd.
(Nantong Base) in Jiangsu Province



中铁南方工程装备有限公司（中山基地）
China Railway South Engineering Equipment Co., Ltd.
(Zhongshan Base) in Guangdong Province



湖北武铁山桥轨道装备有限公司（麻城基地）
Wutie-CRSBG Rail Equipment Co., Ltd.
(Macheng base) in Hubei Province



内蒙古呼铁山桥轨道装备有限公司（包头基地）
Hutie-CRSBG Rail Equipment Co., Ltd.
(Baotou base) in Inner Mongolia Autonomous Region

产业布局

中铁山桥在河北山海关、江苏南通、广东中山、湖北麻城、内蒙古包头建有完备的钢结构和道岔产品生产制造基地，具备年产钢结构500000吨，整组道岔10000组，固定型辙叉15000组。

Industrial layout

In addition to our headquarters in Shanhaiguan, CRSBG has built steel structures production bases in other cities of China ,such as Nantong Base in Jiangsu Province and Zhongshan Base in Guangdong Province. CRSBG also built turnouts production bases in Macheng City, Hubei Province and in Baotou City, Inner Mongolia. Those bases form a reasonable market layout which enables CRSBG to produce 500,000 tons of steel structures, 10,000 whole sets of turnouts, and 15,000 pieces of high manganese steel frogs and assembled frogs per year.

1894



山海关造桥厂诞生
Establishment of Shanhaiguan Bridge Workshop

1906



制造京汉铁路黄河大桥
Beijing-Wuhan Railway Yellow River Bridge

1909



制造京张铁路全线钢桥
Manufacture of Beijing-Zhangjiakou Railway steel bridges

1957



制造中国第一座长江大桥——
武汉长江大桥
Manufacture of the first bridge across the Yangtze River in China-Wuhan Yangtze River Bridge

1962



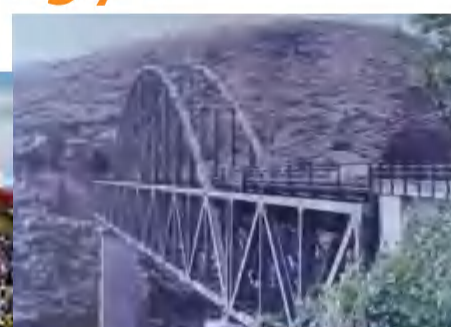
研制中国标准的铁路道岔
Developing Chinese Standard Railway Turnouts

1912



制造中国第一组铁路道岔
Manufacture of China's first Railway Turnouts

1970



参与修筑被称为“20 世纪人类征服自然的三大奇迹”之一的成昆铁路
Participated in the construction of Chengdu-Kunming Railway, which is known as one of the "three wonders of human conquest of nature in the 20th century

1975



参与援建坦赞铁路
Participated in the construction of Tanzania-Zambia Railway

1968



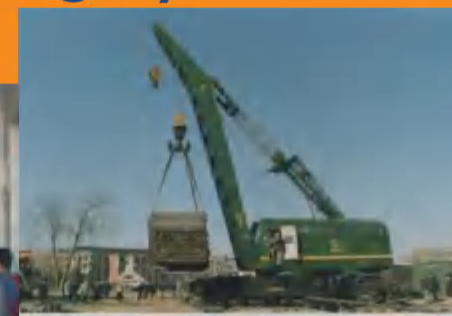
制造南京长江大桥
Manufacture of Nanjing Yangtze River Bridge

1986



推行全面质量管理
Implement total quality management

1987



研制 100 吨内燃铁路救援起重机
Development of 100 ton internal combustion engine railway rescue crane

1991



制造九江长江大桥
Manufacture of Jiujiang Yangtze River Bridge

1995



研制提速道岔，为铁路现代化发展提供技术基础
Development of speed - raising turnouts to provide technical basis for the development of railway modernization

2000



国内首组高速道岔研制成功，成功应用于秦沈客运专线
First set of high-speed railway turnouts in China, applied to the Qin-Shen Passenger Dedicated Line

2007



研制中国第一组时速 350 公里高速道岔
Develop the first set of 350 km/h highspeed turnouts in China

2011



最高时速、最大号码62号高速道岔成功验收
The No. 62 high-speed turnouts Successful acceptance

2022



钢桥、道岔智能生产线全面投产，实现生产制造过程全面信息化管理
The intelligent production line for steel bridges and turnouts has been put into full operation to realize comprehensive information management in the production and manufacturing process

2024



纯净钢辙叉生产线建成投产
The pure steel forg production line was completed and put into operation



CRSBG

道岔产品 / Turnouts

中铁山桥是中国最主要的道岔产品生产企业。自1912年生产出中国第一组道岔以来,已实现高中低速、各种轨型、类型等道岔产品的全覆盖,研制的时速250公里、350公里系列高速道岔广泛应用于京沪、京广、哈大、沪昆、兰新等190余条高铁线路上。其中,时速350公里62号高速道岔是亚洲长度最大、速度最高、结构最复杂、技术最先进的高速道岔,处于国际领先水平。开发的轴重27吨、轴重30吨重载道岔产品具有高纯净度、高致密性、高稳定性、长寿化的特点,平均通过总重达到3.5亿吨。产品出口到美国、澳大利亚、韩国等30个国家和地区。

China Railway Shanhaiguan Bridge Group Co., Ltd is the most important turnouts products manufacturing enterprise in China. CRSBG manufactured the first set of China's turnouts in 1912, now CRSBG's products cover high/middle-high/normal speed railway turnouts, metro and tramway turnouts in all kinds of rail profile/type. 350km/h high-speed turnouts products have been used widely in Beijing-Shanghai, Beijing-Guangzhou, Harbin-Dalian, Shanghai-Kunming, Lanzhou-Urumqi and other high-speed rail lines. No.62-350km/h high-speed turnouts researched and developed by CRSBG is the Asia's longest high-speed turnouts with the highest speed, the most complex structure and the most advanced technology by now. CRSBG has researched and developed high manganese fabricated crossing for heavy haul railway line, and widely applied in turnouts products for 27 and 30 tons axle load with its characters of high safety, high anti-abrasion, and long life service. The average passing weight reaches 350 million tons. Products exported to the United States, Australia, South Korea and other 30 countries and regions.

■ 高速道岔 / High-speed Turnouts

时速350公里60kg/m钢轨62号可动心轨高速道岔，道岔全长201米，侧向通过时速220公里。

60kg/m No.62 movable-nose high-speed turnouts , Total length: 201m , Straight speed: 350km/h , Divergent speed:220km/h.



印尼雅万高铁350公里高速道岔
350km/h high-speed turnouts of JakartaBandung High-Speed Railway



匈塞铁路客运专线道岔
Turnouts of the Hungarian-Serbian railway passenger dedicated line



■ 遂渝线 (中国首条无砟试验段)
Suiyu Line (China's first ballastless test line)



■ 时速350公里60kg/m钢轨42号可动心轨高速道岔, 道岔全长157.2米, 侧向通过时速160公里
60kg/m No.42 movable-nose high-speed turnouts, Total length:157.2m, Straight speed: 350km/h, Divergent speed:160km/h



■ 时速350公里60kg/m钢轨18号可动心轨高速道岔, 道岔全长69米, 侧向通过时速80公里
60kg/m No.18 movable-nose high-speed turnouts, Total length:69m, Straight speed:350km/h, Divergent speed:80km/h



■ 时速200公里60kg/m钢轨18号无砟道岔
200km/h with rail 60kg/m No.18 turnouts (non-ballast)



■ 时速250公里18号固定型单开道岔
250 Km/h No. 18 monoblock single turnouts



■ 时速250公里60kg/m钢轨38号可动心轨高速道岔
60kg/m No.38 movable-nose high-speed turnouts, Total length:136.2m, Straight speed:250km/h, Divergent speed:140km/h

■ 重载及客货共线道岔 / Heavy-haul turnouts and passenger /cargo mixed turnouts



■ 30吨轴重75kg/m钢轨12号单开道岔
75kg/m rail profile, No.12 simple turnouts for 30 tons axle load



■ 超低阻力小号码可动心辙叉
Ultra-low resistance Small number movable-point frog



孟加拉宽轨道岔 (1676mm)
Bangladesh Broade Guage (1676mm) turnouts



几内亚60E1-7号钢枕道岔
EN60E1-NO.7 simple turnouts, exported to Guinea



泰国UIC60-9号单开道岔
UIC60-No.9 Turnouts, exported to Thailand



澳大利亚AS68-1/10道岔
AS68-1/10 turnouts exported to Australia



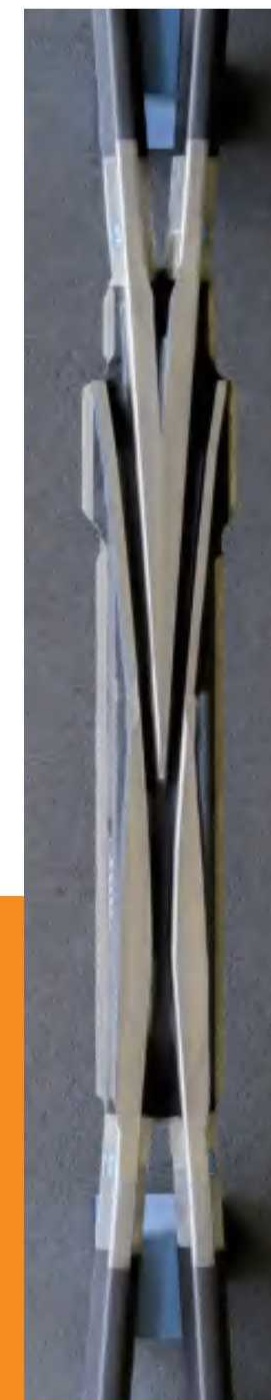
1

美国100RE-9号自护式辙叉
100RE-9 Self-protected frog,
exported to USA



2

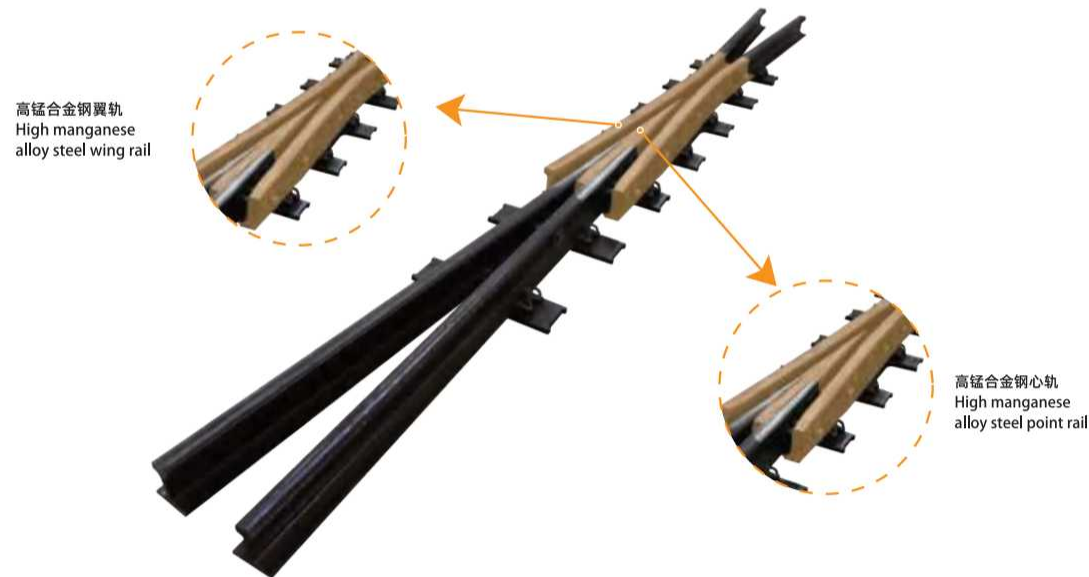
韩国50Kg-8号高锰钢辙叉
50Kg-8 High manganese steel frog,
exported to Korea



3

澳大利亚AS60-9号焊接辙叉
AS60-No.9 welding frog,
exported to Australia

焊接翼轨式高锰合金钢组合辙叉 / High manganese alloy steel combined frog(welded wing rail)



- 1 9号 焊接翼轨式高锰合金钢组合辙叉 / 9# high manganese alloy steel combined welding frog
- 2 12号 焊接翼轨式高锰合金钢组合辙叉 / 12# high manganese alloy steel combined welding frog
- 3 18号 焊接翼轨式高锰合金钢组合辙叉 / 18# high manganese alloy steel combined welding frog

高锰合金钢材料研究——性能检测 / High Manganese Alloy Steel Material Research - Performance Testing

焊接接头的金相组织及晶粒度（实物）
/ Metallographic structure and grain size of welded joint (raw material)

	钢轨 Rail	锰钢与奥氏体不锈钢侧 Manganese steel with austenitic stainless steel side	晶粒度 Grain size
EN14587-3	无脆化现象 / No Embrittlement Found	无脆化现象 / No Embrittlement Found	—
高锰合金钢焊接接头 / High manganese alloy steel welded joint	无脆化现象；珠光体+铁素体 /No Embrittlement Found; Pearlite + Ferrite	无脆化现象；奥氏体 /No Embrittlement Found; Austenite	4 ~ 7

焊接接头静弯性能（实物）
/ Welded joint Static Bending performance (raw material)

	静弯值F/KN Static Bending Value F/KN
EN14587-3	F≥850KN
高锰合金钢焊接接头 / High manganese alloy steel welded joint	1117KN ~ 1184KN

焊接接头的冲击性能（实物） / Impact properties of welded joint (raw material)

	钢轨熔合线及热影响区 /Rail fusion line and heat-affected zone /J	介质中心和锰钢侧熔合线 Medium center and manganese side fusion line /J	锰钢侧热影响区 Manganese steel side heat-affected zone /J
EN14587-3	—	—	—
高锰合金钢焊接接头 / High manganese alloy steel welded joint	30 ~ 50	168 ~ 190	200 ~ 240

焊接接头疲劳试验（实物）
/ Fatigue test of welded joint (raw material)

	疲劳试验 / Fatigue test
最大力值 / Maximum force	300kN
最小力值 / Minimum force	60kN
加载频率 / Loading frequency	5Hz
试验结果 / Test results	5 million times Unbroken

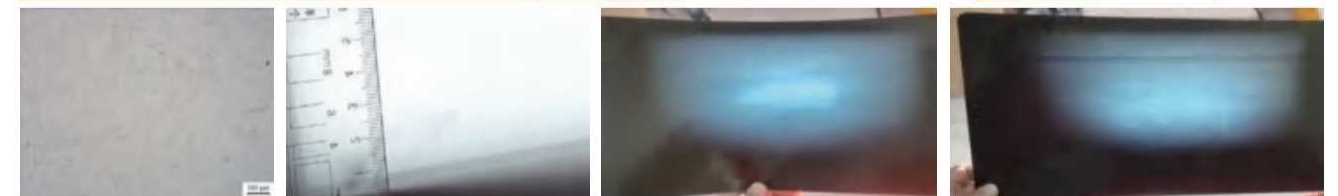


焊接接头的疲劳性能（实物）
/ Fatigue properties of welded joint (raw material)

	Fmax	Fmin	载荷循环次数 load cycles
EN14587-3	255KN	33KN	5×10 ⁶ 、不断 5×10 ⁶ 、continously
高锰合金钢焊接接头 / High manganese alloy steel welded joint	300KN	60KN	5×10 ⁶ 、不断 5×10 ⁶ 、continously

焊接接头的拉伸性能（实物）
/ Tensile properties of welded joint (raw material)

	抗拉强度 / Tensile strength /MPa	断后伸长率 / Elongation after fracture/A
EN14587-3	—	—
高锰合金钢焊接接头 / High manganese alloy steel welded joint	645 ~ 679	19.0% ~ 22%



高锰合金钢：晶粒度4.5级
/ High manganese
alloy steel:
grain size 4.5

高锰合金钢射线检测内部无缺陷 / High magnaese alloy steel RT: No defects inside.

焊接接头静弯试验断口 / Static bending test fracture of welded joint

断口检验未发现未焊合、夹渣、灰斑等缺陷。
No defects such as Lack of Fusion,slag inclusions,or surface staining were found in the fracture test.

4号试件 / Specimen No. 4

5号试件 / Specimen No. 5

6号试件 / Specimen No. 6

探伤结果：各焊接接头未发现裂纹、未熔合、夹渣等缺陷，未发现线性显示，强度grade优于SP1。
Flaw test results: no Lack of Fusion,no slag inclusions,no crack ,no linear display, strength grade higher than SP1.



高锰合金钢材料研究——性能检测 / High Manganese Alloy Steel Material Research - Performance Testing

化学成分 (实物) / Chemical properties (raw material)							有害气体元素 (实物) / Harmful Gaseous Elements(raw material)	
元素 Element	标准 Standard	C	Mn	Si	P	S	元素 Element	高锰合金钢/High manganese alloy steel
中国/China	TB	0.95~1.35	11.0~14.0	0.30~0.80	≤0.06	≤0.030	O	0.0003 ~ 0.0004
高锰合金钢/High manganese alloy steel	CRSBGSTANDARD	1.08 ~ 1.15	12.88 ~ 13.44	0.35 ~ 0.40	0.006 ~ 0.008	0.004	H	0.00023 ~ 0.00035
日本/Japan	JIS	0.90~1.20	11.0~14.0	0.30~0.80	≤0.05	≤0.035	N	0.0031 ~ 0.0059
美国/America	AREMA	1.00~1.40	≥10.0	——	≤0.10	≤0.05		
法国/France	EN	0.95~1.30	11.5~14.0	≤0.65	≤0.05	≤0.03		
英国/The United Kingdom	B5	1.00~1.35	≥10.0	<1.0	<0.12	<0.06		

机械性能 (实物) / Mechanical properties (raw material)							注/pour: 试样/sample 注/pour: 实物/actual	
	标准 Standard	抗拉强度 Tensile Strength /MPa	断后伸长率 Elongation After Fracture /%	硬度 Hardness /HB	常温冲击功 Impact Energy at Room Temperature /J	-40℃冲击功 Impact Energy at -40℃ /J		
中国/China	TB	≥735	≥35	试件/sample ≤229 锰叉实体/Manganese frog entity (未硬化/unhardened) ≥170	≥118	无要求 No requirement		
高锰合金钢/High manganese alloy steel	CRSBGSTANDARD	1060 ~ 1170	72 ~ 82	215 ~ 225	325 ~ 410	316 ~ 382		
日本/Japan	JIS	≥735	≥35	170~223	——	——		
英国/The United Kingdom	B5	——	——	≥229	——	——		

显微组织 (实物) / Microstructure (raw material)					注/pour: 试样/sample 注/pour: 实物/actual	
	晶粒度 Grain Size	未溶碳化物 Non-Dissolved Carbides	析出碳化物 Exsolution Carbides	过热碳化物 Superheated Carbides		
中国/China	无要求 No requirement	≤W3级/grade	≤X3级/grade	≤G2级/grade		
高锰合金钢/High Manganese Alloy Steel	2.5~5.5级/ grade	non	X1 ~ X2	non		

非金属夹杂物 (实物) / Non-Metallic Inclusions (raw material)								
	A (硫化物类) (Sulfide Types)		B (氧化铝类) (Oxide Types)		C (硅酸盐类) (Silicate Types)		D (球状氧化物类) (Globular Oxide Types)	
高锰合金钢/High Manganese Alloy Steel	细系/Fine	粗系/Coarse	细系/Fine	粗系/Coarse	细系/Fine	粗系/Coarse	细系/Fine	粗系/Coarse
	0	0	0	0	0	0	0	0

高锰合金钢材料研究——性能对比 / High Manganese Alloy SteelMaterial Research - Performance Comparison

高锰合金钢提高了材料的强度、塑性和韧性，这几项指标反映辙叉在受力作用下的抵抗能力，决定着辙叉的耐久性和安全性。高锰合金钢与铸造高锰钢相比提高了强度，强度指标可以达到1160~1170MPa，高于R260、U71Mn和U75V，与U71MnH的指标相当，略低于R350HT、U75VH和合金钢材料，但其断后伸长率和冲击韧性提升显著，安全性更高。

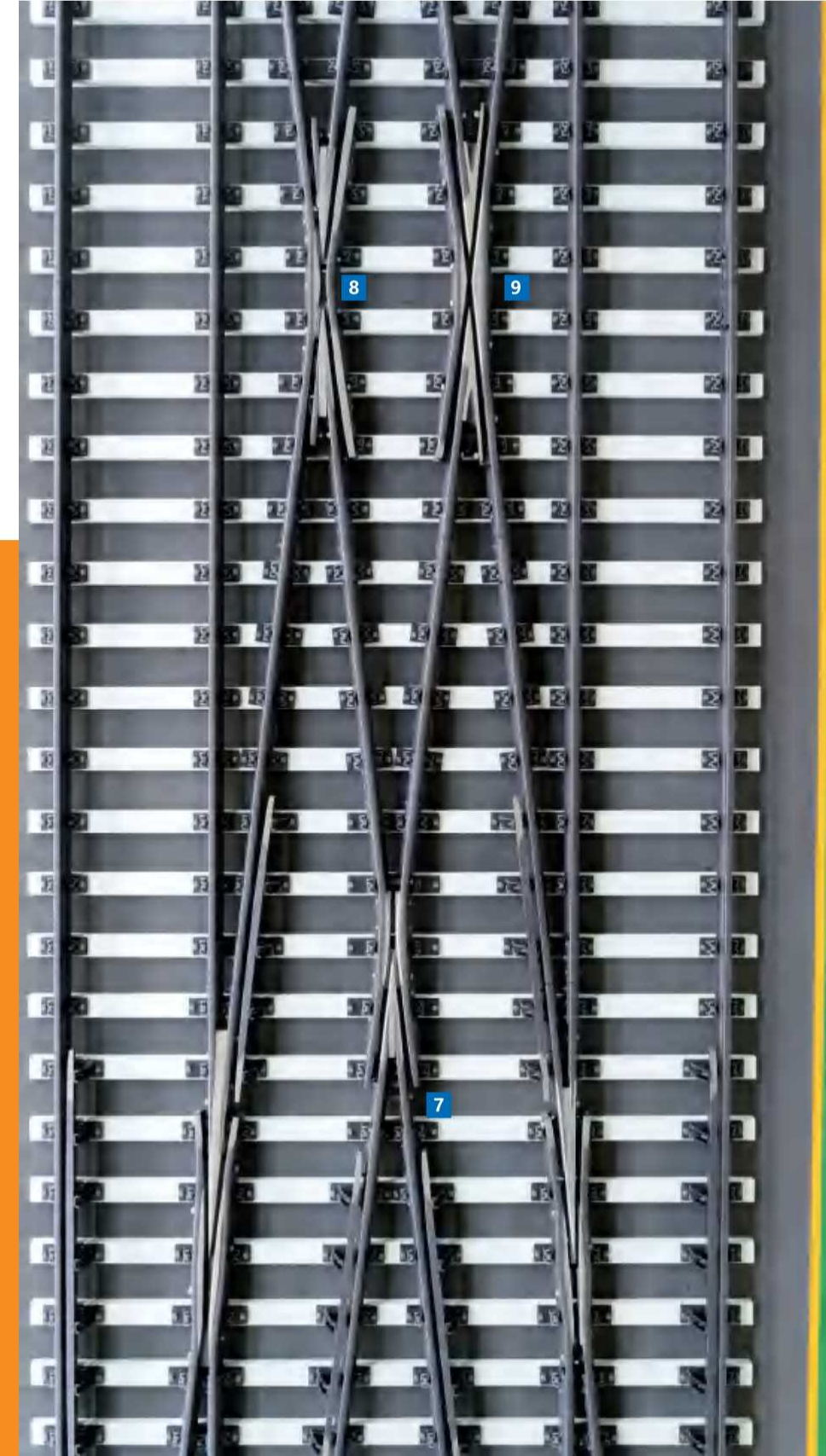
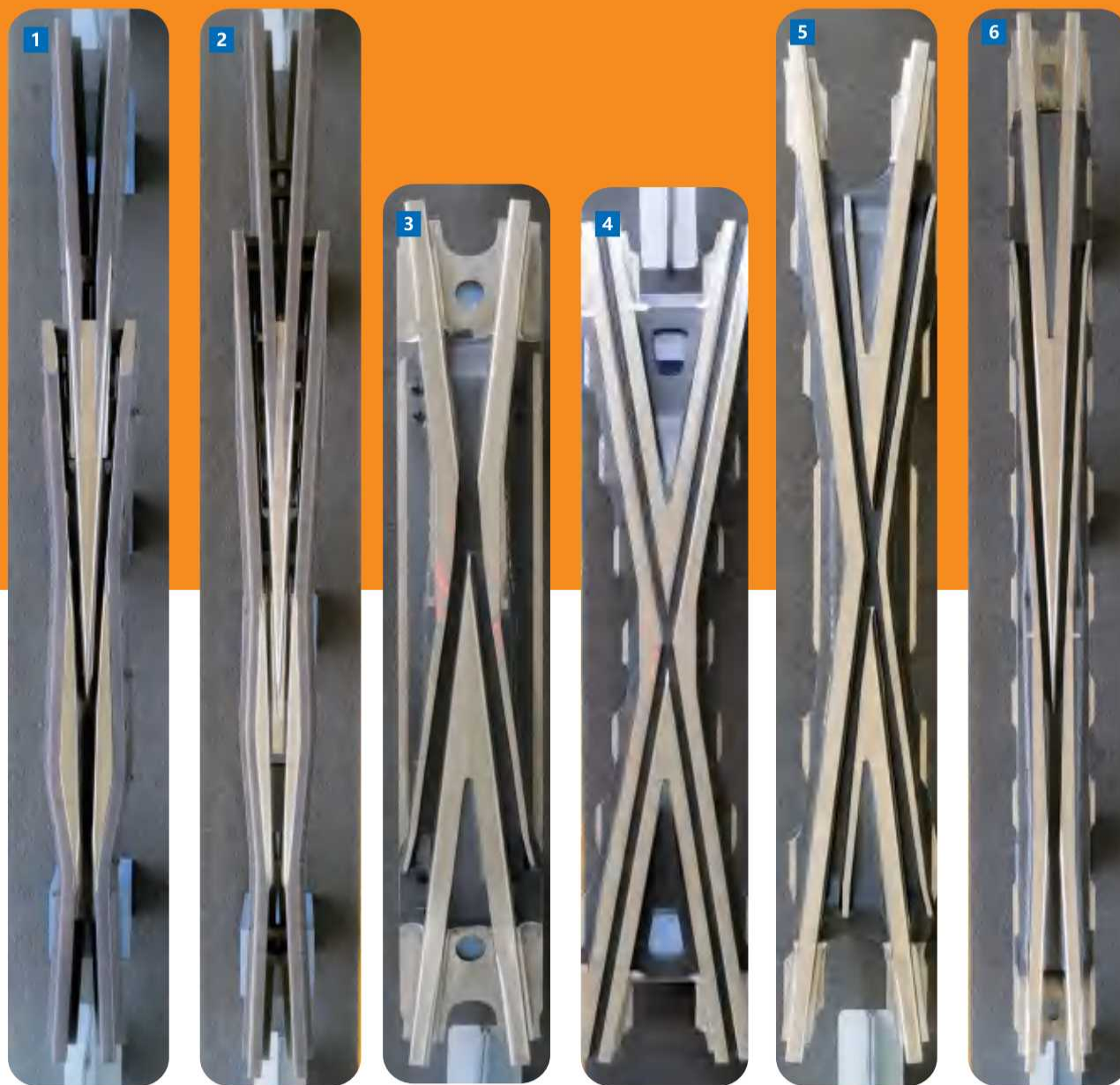
High Manganese Alloy Steel improves the material's strength, plasticity, and toughness. These indicators reflect the resistance of the rail frog under stress and determine its durability and safety. Compared to cast high manganese steel frog, High Manganese Alloy Steel enhances strength, with a strength range of 1060~1170 MPa, higher than R260、 U71Mn and U75V, same as U71MnH, but slightly lower than R350HT、 U75VH and alloy steel materials. However, it shows significant improvements in elongation after fracture and impact toughness, resulting in higher safety.

牌 号 Grade	抗拉强度 Tensile Strength /MPa	断后伸长率 Elongation After Fracture A	常温冲击功 Impact Energy at Room Temperature /J	-40℃冲击功 Impact Energy at -40℃ /J	-60℃冲击功 Impact Energy at -60℃ /J	疲劳寿命应变幅0.004 Fatigue life strain amplitude0.004 /失效循环次数 Failure Cycles	疲劳寿命应变幅0.008 Fatigue life strain amplitude0.008 /失效循环次数 Failure Cycles
R260	≥880	≥10%	——	——	——	——	——
R350HT	≥1175	≥9%	——	——	——	——	——
U71Mn	≥880	≥10%	Measured 11~20	——	——	——	——
U75V	≥980	≥10%	Measured13~24	——	——	——	——
U71MnH	≥1080	≥10%	Measured18~25	——	——	——	——
U75VH	≥1180	≥10%	Measured19~28	——	——	——	——
贝氏体合金钢 / Bainite alloy steel	≥1280	≥12%	≥60	≥30	——	15287	1340
铸造高锰钢 / Cast High Manganese Steel	≥735	≥35%	≥118	——	——	1278	283
高锰合金钢叉钢 / High Manganese Alloy Steel	≥1060	72%~82%	325 ~ 410	316 ~ 387	339.1	29525	2397

轧制高锰合金钢组合辙叉
Forged high manganese alloy steel combined frog



- 1 高锰钢拼装辙叉 High manganese steel combined frog
- 2 镶嵌式合金钢组合辙叉 Mosaic type alloy steel combined frog
- 3 高锰钢整铸锐角辙叉 High manganese steel acute frog
- 4 高锰钢整铸菱形辙叉 High manganese steel integrally cast diamond frog
- 5 高锰钢整铸钝角辙叉 High manganese steel obtuse frog
- 6 高锰钢整铸辙叉 Solid high manganese steel frog



- 7 镶嵌式合金钢锐角组合辙叉
Mosaic type alloy steel acute
angle combined frog
- 8 镶嵌式合金钢钝角组合辙叉
Mosaic type alloy steel obtuse
angle combined frog
- 9 高锰钢钝角组合辙叉
High manganese steel obtuse
angle combined frog

城市轨道交通道岔 / Turnouts for urban transportation

中铁山桥制造了中国第一组地铁道岔，先后为北京、天津、上海、广州、大连、长春、深圳、武汉等 40 多个城市提供设计和制造了地铁、轻轨、有轨电车道岔产品，市场份额始终保持 60% 以上，还相继出口到东南亚、北非以及香港、台湾等国家和地区。

随着轨道交通产业的快速发展，低成本、低能耗、少占地的新式轨道交通越来越受到大中城市的青睐。中铁山桥积极开展新式轨道装备的技术研究，率先建造完成了国内首条悬挂式空轨试验线，其研制的悬挂式单开道岔，是目前世界上唯一可同时满足两种不同结构型式转向架通行和制动要求的道岔，填补了国内空轨交通领域的多项空白。

CRSBG made the first set of metro turnouts in China, and has designed and supplied lots of metro, urban tramway turnouts for more than 40 cities including Beijing, Tianjin, Shanghai, Guangzhou, Dalian, Changchun, Shenzhen, Wuhan etc. The market share always keep more than 60%, and meanwhile exported to South-east Asia, North Africa, Hongkong, Taiwan and other countries and regions.

With the rapid development of rail transit industry, new type rail transit with advantages of low cost, low energy consumption, less area covering is becoming more and more popular. CRSBG carried out the technical research actively for new type rail equipment, and produced the first Suspension monorail test line in China. And Suspension monorail simple turnouts is the only one turnouts which can meet the two different structure bogie's access and braking requirements at the same time in the world, and has filled a number of gaps in domestic monorail transport field.



悬挂式空轨试验线
Suspension monorail test line



南京现代有轨电车59R2-6号单开道岔
59R2-6 Turnouts for Nanjing
Modern Track transit



成都地铁道岔
Turnouts for Chengdu Metro



武汉现代有轨电车三开组合道岔
Modern tramway three-throw combination turnouts for Wuhan



青岛有轨电车梳子型道岔
Comb type turnouts for Qingdao tramway



武汉有轨电车停车场道岔
Turnouts for Wuhan metro vehicles park



台湾地铁道岔
Turnouts for Taiwan metro



香港地铁道岔
Turnouts for Hong Kong metro



太原地铁新型减振道岔
Taiyuan Metro (New Type vibration reduction turnouts)



桥梁钢结构 STEEL STRUCTURE BRIDGES

■ 沪苏通长江大桥 / Shanghai-Suzhou-Nantong Yangtze River Bridge

世界首座跨度超过千米的公铁两用斜拉桥。

沪苏通长江大桥是沪通铁路全线的控制性工程，主跨 1092 米，成功开发 Q500qE 桥梁钢，采用工厂整体拼装再浮运至现场吊装的新工艺，打破传统的采用单杆件架设拼装的方式，实现了沪通长江大桥“零误差”的精准合龙。

The world's first highway-railway cable-stayed bridge with a span over one kilometer.

Shanghai-Suzhou-Nantong Yangtze River Bridge is the dominant engineering of Shanghai-Nantong railway, With a main span of 1,092 meters, it successfully developed Q500qE bridge steel and adopted a new process of factory assembly followed by floating transportation to the site for installation. This method broke away from the traditional single-rod assembly approach, achieving a "zero-error" precise closure for the Hu-Su-Tong Yangtze River Bridge.



■ 常泰长江大桥
Changzhou-Taixing Yangtze River Bridge



■ 福平铁路平潭海峡大桥
Fuzhou Pingtan Railway Pingtan Strait Bridge



■ 南京大胜关长江大桥
Nanjing Dashengguan Yangtze River Bridge



■ 美国韦拉扎诺海峡大桥（维修项目）
Verrazano-Narrows Bridge in New York USA(Upper Deck Replacement)



■ 美国阿拉斯加铁路桥
Tanana river Bridge, Alaska in USA



■ 德国双线铁路桥
Rathenow Bridge in Germany (double line railway bridge)



■ 孟加拉帕德玛大桥 / Padma Multipurpose Bridge in Bangladesh

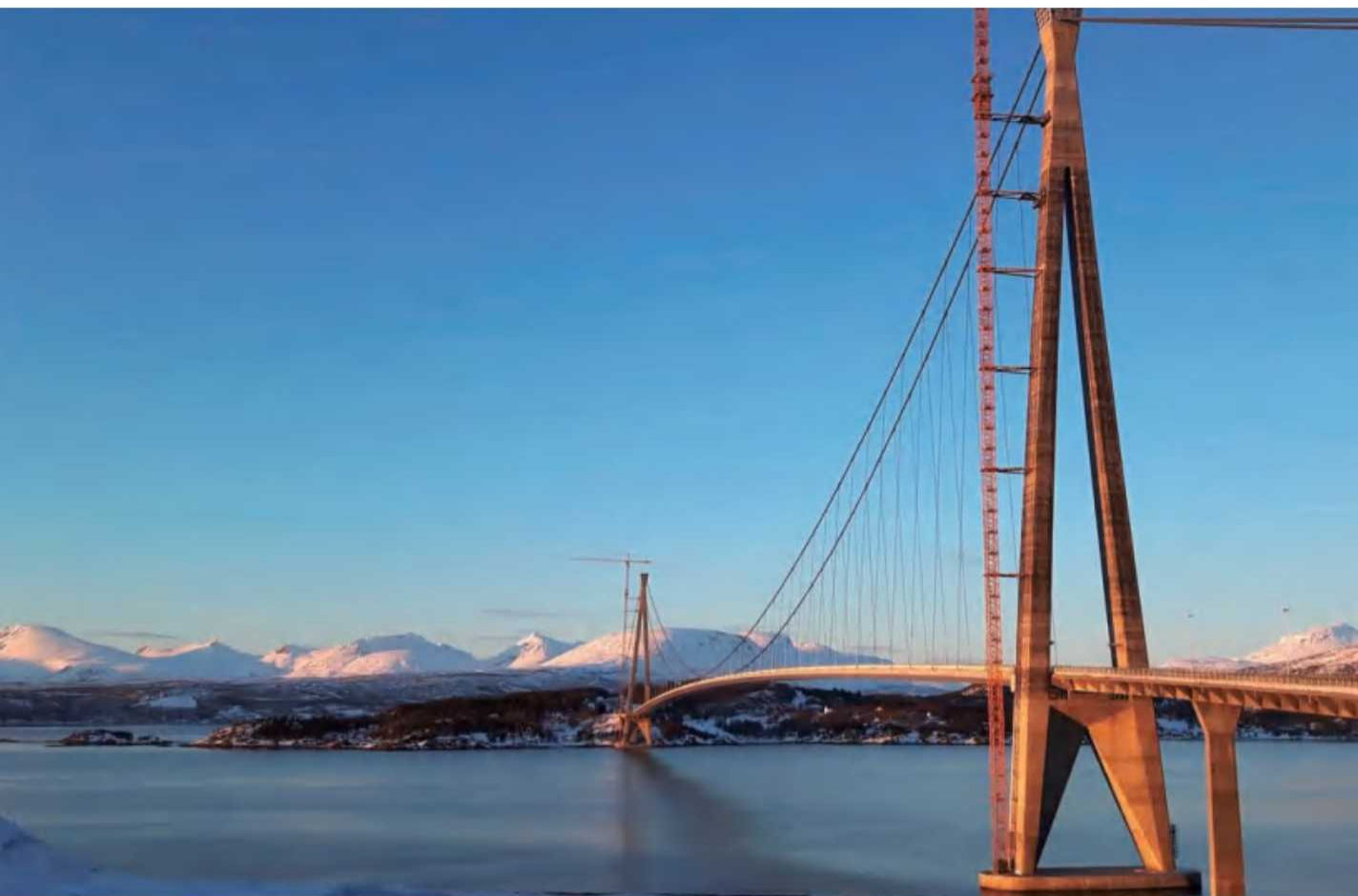
孟加拉帕德玛大桥采用欧洲标准制造，为全焊结构、超厚板、公铁两用钢桁梁桥，大桥由 41 孔 150 米的钢桁梁组成，单孔重 3200 吨，桥梁钢结构 12.58 万吨。

The Padma Bridge in Bangladesh is manufactured according to European standards and is a fully welded structure, ultra thick plate, dual-use steel truss bridge for both road and rail. The bridge is composed of 41 spans of 150 meters each, with each span being a steel truss beam weighing 3,200 tons. The steel structure of the bridge weighs 125,800 tons.

■ 挪威哈罗格兰德大桥 / Halogaland Bridge in Norway

挪威哈罗格兰德大桥主跨 1141.4 米，横截面为非对称钢箱梁，突破了薄板钢箱梁制造变形控制，喷砂等级 Sa3 和喷砂后盐分含量不高于 20 毫克 / 平方米等一系列技术难题。

Halogaland Bridge main span is 1,141.4m, cross section of bridge is asymmetric steel box girder. A series of technical difficulties including deformation control of steel box girders made by think steel plate, blast clean outer surface with grit to grade Sa3, and the quantity of chloride shall be max. 20mg/m2 after blast cleaning have been solved successfully.



摩洛哥穆罕默德六世大桥
Mohammed VI Bridge in Morocco



加拿大帕特洛大桥
The Paltrow Bridge in Canada



瑞典斯德哥尔摩斯鲁森桥
SN 72 Main Bridge in Sweden



塞尔维亚萨瓦桥
Sava Bridge in Serbia



德国水工钢结构
Steel structure for navigation lock in Germany



挪威尼德瓦开启桥
Moveable bridge in Nidvar, Norway

iBIM 工程项目管理协同制造服务云平台



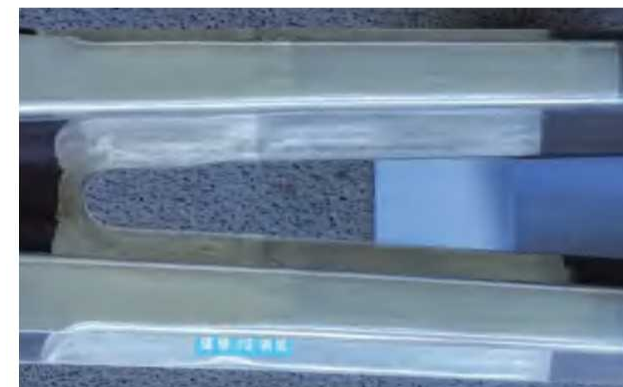
■ 钢结构智能制造“五线一系统”
Steel structure intelligent manufacturing information system



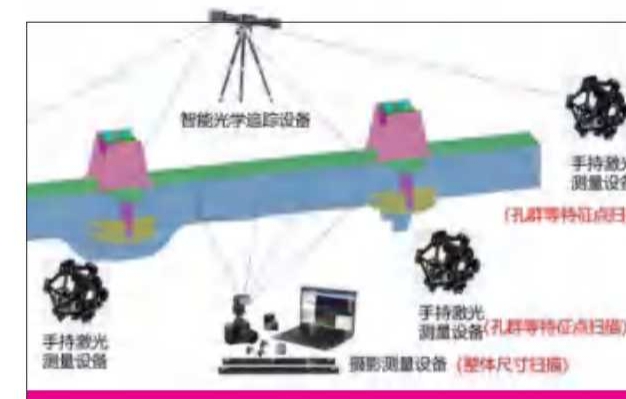
■ 全焊钢桁梁制造技术
Whole welding steel truss manufacturing technology



■ 超长寿命辙叉关键技术
Key Technologies for Ultra-long service-life frog



■ 高锰钢与普通钢轨闪光焊接技术
Flash-butt welding technology



■ 虚拟拼装软件系统
Virtual Assembly Software System



■ 新型高性能耐候桥梁钢焊接技术
New high-performance weathering bridge steel welding technology



■ 时速400公里高速道岔关键制造技术
Key manufacturing technology for high-speed turnouts with a speed of 400Km/h



■ 纯净钢冶炼、铸造及热处理技术
Pure steel smelting, casting and heat treatment technology



■ 超大型桥梁钢塔及钢混组合塔制造技术
Manufacturing technology of super large bridge steel towers and steel-concrete composite towers



100M智能下料生产线
100M intelligent cutting production line



6000T锻压自动生产线
6000T automatic forging production lines



50M数控钻床
50M CNC drilling machine



52M 数控铣床
52M CNC milling machine



纯净钢辙叉冶炼、铸造生产线
The pure steel forg Smelting and casting production line



道岔垫板全自动数控加工集成单元
Fully automatic CNC machining integrated unit for switch base plate



道岔垫板智能生产线
Intelligent production line of base plate



钢轨闪光焊机
Rail flash welding machine

辙叉数控加工生产线
CNC production line for producing crossing



数控激光切割机
CNC laser Cutting Machine



U肋板单元内焊机器人
U rib panel internal welding robot



3000T锻压机床
3000T forging machine



埋弧自动焊接系统
Submerged arc automatic welding system



板单元埋弧焊接机器人系统
Submerged arc welding robot system for plate units



双龙门三维数控钻床
Twin Spindles Gantry 3D CNC Drilling Machine



数控落地镗铣床
Floor Type CNC Boring and Milling Machine



剪力钉自动焊机器人
Automatic welding robot for shear studs

中铁山桥拥有国家实验室认可的 CNAS 和 CMA 认证的检测实验室，具有完备的质量、环境、职业健康、安全、能源、两化融合等管理体系。

CRSBG has CNAS and CMA certified testing laboratories recognized by national laboratories, a complete management system for quality, environment, occupational health, safety, energy, Integration of informatization and industrialization.



扫描电镜
Scanning electron microscope



电液伺服试验机
Electro hydraulic servo testing machine



疲劳试验机
Fatigue testing machine



相控阵探伤
Phase-arrayed Testing Equipment



道岔足尺综合试验系统
Full scale comprehensive test system of turnouts



GRP1000S轨道测量系统
GRP1000S Railway Track Measuring System

● 质量方针 / QUALITY POLICY

优质产品是山桥的不懈追求
顾客至上是山桥的永恒承诺

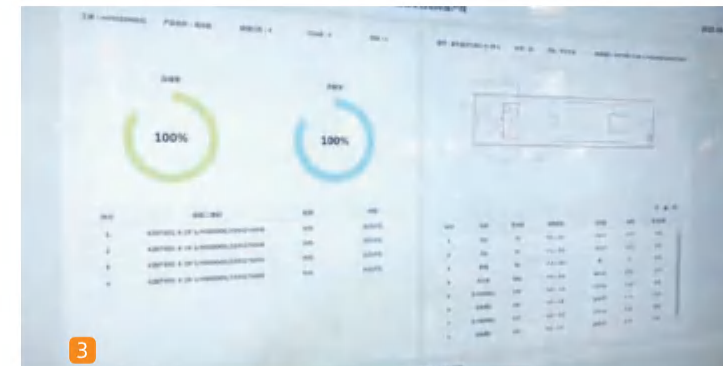
HIGH-QUALITY PRODUCTS ARE CRSBG'S RELENTLESS PURSUIT
CUSTOMER FIRST IS CRSBG'S ETERNAL COMMITMENT



● 不接受不合格品 / NEVER ACCEPTING NON-CONFORMED PRODUCTS

● 不制造不合格品 / NEVER MANUFACTURING NON-CONFORMED PRODUCTS

● 不流出不合格品 / NEVER RELEASING NON-CONFORMED PRODUCTS



1 道岔整体组装化
Turnouts integrated assembly

3 生产过程信息化
Informationized production process

5 制造服务专业化
Specialized manufacturing and service

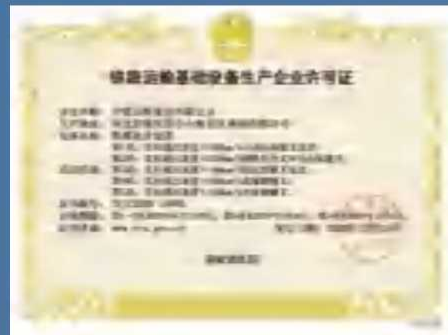
2 钢轨采购统一化
Unified rail procurement

4 物资管理规范化
Standardized material management

6 质量检验精细化
Finer quality inspection



美国铁路协会证书 AAR- Certificate



中国铁路运输基础设备生产企业许可证
China Railway Transportation Foundation
Equipment Manufacturing Enterprise License



欧盟道岔EN13232证书
EN13232 Certificate



钢结构欧盟证书
EN1090 Certificate



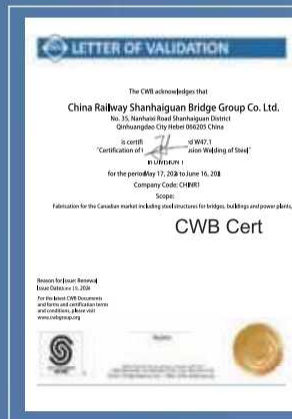
欧盟道岔一致性证书
EC ISV Certificate



国际焊接证书
ISO3834 Certificate



美国钢结构协会证书
AISC Certificate



加拿大焊接局证书
CWB Certificate



管理体系证书 ISO Certificate



钢结构一级资质证书
First class steel structure Certificate



CNAS认可证书
CNAS Certificate



CMA证书
CMA Certificate



国家科学技术进步奖证书 / National Science And Technology Awards

国家质量奖证书 / National Quality Awards



国家技术发明奖证书 / National Technological Invention Awards

国际奖项证书 / International Awards

闪耀海外 / Shine overseas



海外办事处 / Overseas branch
出口国家 / Export countries