臺灣正昇金屬股份有限公司
Taiwan Cheng Sheng Metal Co., Ltd.

730 台南市新營區新營工業區忠孝路 12 號
No.12, Zhongxiao Rd., Xinying Dist.,
Tainan City 730, Taiwan
Tel: +886-6-6526105-7 Fax: +886-6-6522908
tcsob@ms41.hinet.net www.tcsfoundry.com

與世界米漢納鑄鐵公司技術合作
Cooperating in Technologies with
World-Wide Meehanite Metal Company

臺灣正昇
Taiwan Cheng Sheng

Best Cast For Casting
以創新鑄造・藝術工藝為榮





Visual Design/ SGJ tel +886 4 37038989 01/2013

www.tcsfoundry.com

公司簡介
Introduction

經營理念

「優勝劣敗，物競天擇」在競爭甚為激烈的鑄造業中，**臺灣正昇**金屬股份有限公司不惜投下鉅資興建現代化鑄造廠，並與世界米漢納鑄鐵公司技術合作，以一流的人才及先進的鑄造理念生產高品質鑄鐵。

臺灣正昇金屬股份有限公司秉持著誠正踏實、追求卓越的精神為經營宗旨，僅以優良穩定的品質及熱忱周致的服務，於製造與服務角色更迭的 21 世紀中與同業齊頭並進，與您一起成長。

臺灣正昇金屬股份有限公司以創新鑄造、藝術工藝為榮。

Corporate Maxim & Organization

Taiwan Cheng Sheng is an Iron Foundry that strongly believes in "the survival of the fittest." After significant investment we have developed a full service foundry, and continue cooperating with the world-wide Meehanite Metal Company. We achieve the highest quality castings available products of our advanced techniques by creating and progressive casting concepts.

Taiwan Cheng Sheng goes beyond engineering and delivers highly functional cast works of art.



建廠日期：民國 78 年 3 月	Established: March, 1989
資本額：NT$240,000,000	Capital: US$8,300,000
佔地面積：51,721 平方公尺	Land Area: 51,721m²
廠房面積：17,981 平方公尺	Plant Area: 17,981m²
木型置放場面積：20,080 平方公尺	Wood Pattern Storage Area: 20,080m²
員工人數：165 人	Employees: 165 Persons
生產量：2,000 公噸 / 月	Productivity: 2,000 Tons/Month

目錄 Contents

1 公司簡介 Introduction
3 設備 Equipment
7 產品 Products
11 產品及出貨 Products & Delivery
13 品質管制設備 QC Equipment
17 米漢納鑄鐵規格 Meehanite Cast Iron Specifications
18 環保責任 Environmental Protection

沿革 Company History

1980 創立 煌昇機械企業股份有限公司
HONG SHIN Foundry Industries Co., Ltd. founded.

1982 煌昇一廠設立並開始運轉
HONG SHIN Plant No.1 established and began operation.

1985 煌昇二廠設立並開始運轉
HONG SHIN Plant No. 2 established and began operation.

1988 創立臺灣正昇金屬股份有限公司
TAIWAN CHENG SHENG Metal Co., Ltd. established.

1989 煌昇三廠設立運作，同年設立臺灣正昇金屬股份有限公司一廠
HONG SHIN Plant No. 3 established and began operation. TAIWAN CHENG SHENG Plant No.1 established.

1990 臺灣正昇金屬股份有限公司一廠正式生產
Production commenced at TAIWAN CHENG SHENG Plant No.1.

1993 設立煌昇四廠及臺灣正昇金屬股份有限公司二廠
HONG SHIN Plant No. 4 and TAIWAN CHENG SHENG Plant No. 2 established.

1994 臺灣正昇金屬股份有限公司二廠開始運轉
Production commenced at TAIWAN CHENG SHENG Plant No. 2.

1996 設立臺灣正昇金屬股份有限公司三廠
TAIWAN CHENG SHENG Plant No. 3 established.

1998 臺灣正昇金屬股份有限公司三廠正式生產
Production commenced at TAIWAN CHENG SHENG Plant No. 3.

1999 榮獲 ISO-9002 國際品質認證
ISO-9002 International Quality Certification granted.

2000 符合 ISO-9000 國際品質認證修訂並獲得 ISO-9001 國際品質認證
Complied with ISO-9000 International Quality Certification revisions. ISO-9001 International Quality Certification granted.

2002 臺灣正昇金屬股份有限公司四廠開始施工
TAIWAN CHENG SHENG Plant No. 4 construction started.

2003 臺灣正昇四廠全線運轉
TAIWAN CHENG SHENG Plant No. 4 operational.

2008 臺灣正昇金屬股份有限公司再購買 5,145 平方公尺廠房
TAIWAN CHENG SHENG purchased 5,145 m² factory building.

設備 Equipment

臺灣正昇金屬股份有限公司擁有三十幾年機械鑄件的生產經驗，並擁有鑄鋼、鑄鐵及合金產品等紮實生產專業，因此，能生產高品質的各種大小型機械鑄件，從小鑄件 250 公斤到大型鑄件 100 公噸皆有生產，不僅在臺灣，更在日本、北美及歐洲等地區的橡膠機、塑膠機、工具機製造界，扮演著重要供應者的角色。

自創立以來，即不斷全面提昇產品品質，鑄件分別採用了「灰口鑄鐵」、「球狀石墨鑄鐵」、「米漢納高級鑄鐵」、「鎳抗鑄鐵」等材質，生產符合世界各種規格，如「日本 JIS」，「美國 ASTM、SAE」，「德國 DIN」與「歐盟 EN」…等各國規格。

臺灣正昇不僅以專業齊備的生產設備，提供客戶最精良的大小型鑄件，同時，以滿足客戶需求為目的，在任何一道生產步驟中，皆以追求鑄件最高品質為目標。

Taiwan Cheng Sheng (TCS) possesses over thirty years of professional technical experience in the manufacturing of steel, iron and alloy casting products. Products of all shapes and sizes for any type of machine are within the company's capabilities, which range from parts as light as 250 kgs easily on up to bases as heavy as 100 metric tons or more. **TCS** is a major supplier to the rubber & plastic as well as heavy machinery industries, and has a strong presence in Taiwan, Japan, North America and Europe.

Since its establishment, **TCS** has constantly strived to improve the all-round quality of its products. It manufactures high quality precision cast products with materials such as Grey Cast Iron, Ductile Cast Iron, Meehanite Cast Iron and Ni-resist Iron, which fully comply with Japanese JIS, ASTM, SAE of USA, German DIN and European Union EN industrial standards. **TCS** is fully equipped to produce near net shape cast products of any size to the level of sophistication its clients demand. As client satisfaction is at the top its priority list, **TCS** goes to extreme lengths to ensure quality assurance throughout every step of its production process.



呋喃樹脂自硬性造模設備 (35 噸 / 小時)
Furan No-Bake Molding System (35 Tons/hr)

塑膠射出成型機機壁保麗龍模
Styrofoam Pattern for Plastic Injection Molding Machine



造模 Sand Molding



木型置放場
Wood Pattern Storage



砂箱放置場
Flask Storage



中週波感應溶解爐
MF Induction Furnace



設備 Equipment

英國力拓高純度球墨生鐵
High Purity SORELMETAL
SORELMETAL®



螺絲成型通孔後的廢鐵粒
The Scraps From the Original Piercing Materials After Nuts Forming



熱處理爐 Heat Treatment Furnace





吊車式噴砂機
Crane Shot
Blasting Machine

研磨 Grinding



生產設備	規格	數量
中週波感應熔解爐	5 噸	1 座
中週波感應熔解爐	10 噸	2 座
中週波感應熔解爐	20 噸	2 座
呋喃樹脂自硬性造模設備	5 噸 / 小時	2 座
呋喃樹脂自硬性造模設備	10 噸 / 小時	3 座
呋喃樹脂自硬性造模設備	20 噸 / 小時	1 座
呋喃樹脂自硬性造模設備	35 噸 / 小時	3 座
呋喃砂輸送系統		9 座
呋喃砂再生設備	15 噸 / 小時	3 座
吊車式噴砂機	10 噸 / 小時	1 座
吊車式噴砂機	3 噸 / 小時	1 座
輸送式噴砂機	10 噸 / 小時	1 座
台車式熱處理爐	6 x 3 x 2.5 (M)	1 座
台車式熱處理爐	10 x 3 x 2.5 (M)	1 座
電動吊車	3-80 噸	40 座
集塵設備	2-75 (HP)	23 座
砂模烘乾機	54 KW	2 座

Production Facilities	Specifications	Quantity
MF Induction Furnace	5 Tons	1 set
MF Induction Furnace	10 Tons	2 sets
MF Induction Furnace	20 Tons	2 sets
Furan No-Bake Molding System	5 Tons/hr	2 sets
Furan No-Bake Molding System	10 Tons/hr	3 sets
Furan No-Bake Molding System	20 Tons/hr	1 set
Furan No-Bake Molding System	35 Tons/hr	3 sets
Sand Conveying System		9 sets
Sand Recycling System	15 Tons/hr	3 sets
Crane Shot Blasting Machine	10 Tons/hr	1 set
Crane Shot Blasting Machine	3 Tons/hr	1 set
Tunnel Type Shot Blasting Machine	10 Tons/hr	1 set
Heat Treatment Furnace	6 x 3 x 2.5 (M)	1 set
Heat Treatment Furnace	10 x 3 x 2.5 (M)	1 set
Crane	3-80 Tons	40 sets
Dust Collecting System	2-75 (HP)	23 sets
Sand Mold Dryer	54 KW	2 sets

生產流程 Manufacturing Process

溶解 Melting
送料 Charging → 送電 Power Supply → 熔湯 Melt → 成份測定 Content Test → 合格 Certification → 出湯 Tapping → 接種、球化 Inoculation, Spheroidization

造模 Molding
方案設計 Casting Plan Design → 模型核對 Mold Pattern Checking → 呋喃造模 Furan Sand Molding → 取模、塗型 Stripping, Coating → 乾燥 Baking → 合模 Assembly → 澆鑄 Pouring

後處理 After-Treatment
徐冷 Slow-Cooling Off → 拆箱 Shaking-Out → 清砂 Sand Stripping → 切割、研磨 Cutting, Grinding → 熱處理 Heat Treatment → 噴砂處理 Blast Cleaning → 產品檢查 Product Inspection → **出貨 Delivery**

產品 Products

主要產品

- 塑膠射出成型機鑄件
- 橡膠機鑄件
- 油壓機鑄件
- 工作母機鑄件
- 螺絲、螺帽成型機鑄件
- 各種機械大型鑄件

Main Products

- Castings of Plastic Injection Molding Machines
- Castings of Rubber Machines
- Castings of Hydraulic Machines
- Castings of Machine Tool
- Castings of Bolt, Nut Formers
- A Wide Range of Large Size Castings

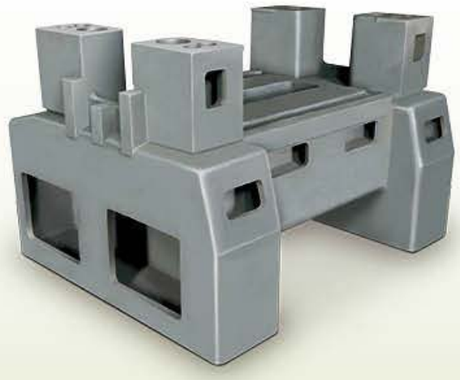
壓糖用行星式減速機軸承座
The Bearing Seat of Planetary Gear Reducer for Sugar Mill Equipment
- Material: JIS-FCD500
- Weight: 14,695 Kgs
- Size: L3,810 x W3,240 x H900 mm



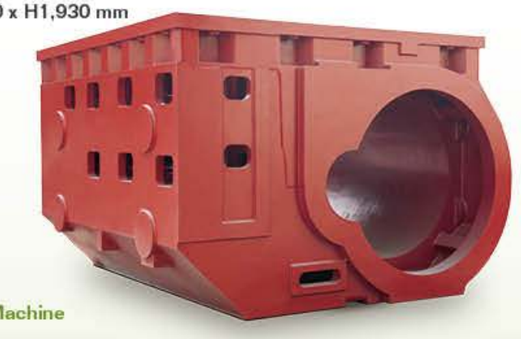
雙吸泵浦 Double Suction Pump
- Material: JIS-FCD400
- Weight: 10,200 Kgs
- Size: L3,219 x W2,212 x H2,500 x D1,200 mm



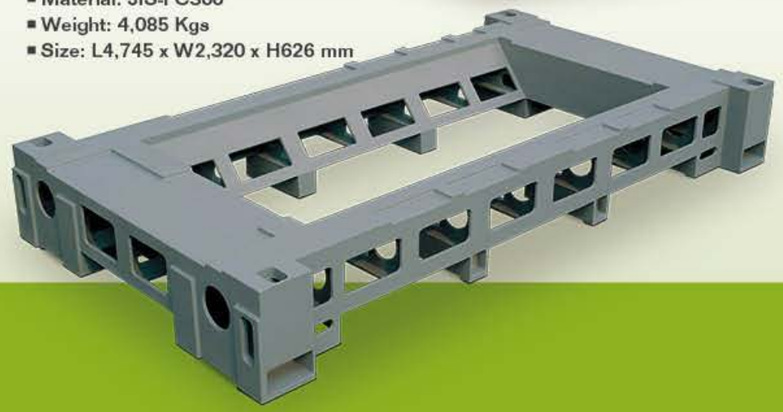
高速沖床腳座
Body for High-Speed Precision Press
- Material: JIS-FC250
- Weight: 7,060 Kgs
- Size: L2,200 x W1,730 x H1,318 mm



車床尾座 Tailstock for Lathe
- Material: JIS-FC300
- Weight: 39,480 Kgs
- Size: L2,895 x W2,860 x H1,930 mm



雷射切割機機床
Bed for Laser Cutting Machine
- Material: JIS-FC300
- Weight: 4,085 Kgs
- Size: L4,745 x W2,320 x H626 mm



塑膠射出成型機中機壁 Movable Platen for Plastic Injection Molding Machine
- Material: JIS-FCD450 ▪ Weight: 37,940 Kgs
- Size: L3,260 x W2,354 x H1,653 mm



塑膠射出成型機前機壁 Stationary Platen for Plastic Injection Molding Machine
- Material: JIS-FCD450 ▪ Weight: 35,160 Kgs
- Size: L3,314 x W3,078 x H1,066 mm



產品 Products



2MW 風力發電機齒輪箱零組件
Gear Box Component for 2MW Wind Turbine

- Material: EN-GJS-400-18-LT



- Weight: 106 Kgs
- Size: D532 x D70 x H202 mm



- Weight: 1,880 Kgs
- Size: D1,850 x D640 x H311 mm



- Weight: 1,380 Kgs
- Size: D1,798 x D380 x H533 mm



- Weight: 7,700 Kgs
- Size: D2,560 x D1,270 x H1,210 mm



- Weight: 2,700 Kgs
- Size: D1,950 x D604 x H517 mm



- Weight: 1,319 Kgs
- Size: D1,260 x D350 x H621 mm



龍門加工機底座
Bed for Universal Machining Center
- Material: JIS-FC300
- Weight: 17,000 Kgs
- Size: L8,954 x W2,500 x H758 mm



CNC 車床床身
Bed for CNC Lathe
- Material: JIS-FC300
- Weight: 19,900 Kgs
- Size: L13,025 x W1,180 x H733 mm



輸出分支 Delivery Branch
- Material: JIS-FCD600
- Weight: 5,740 Kgs
- Size: L3,650 x D2,470 x H2,640 mm



製紙機主壓水轆 Main Press Roller for Paper Machine
- Material: JIS-FCD600
- Weight: 37,650 Kgs
- Size: D1,510 x D1,270 x L7,300 mm

品質管制設備
QC Equipment



萬能試驗機
Universal Tester



光譜分光分析儀
Vacuum Emission Spectrometer



硬度試驗機
Hardness Tester



金相顯微設備
Metallurgical Microscope



電腦碳當量儀
Carbon Equivalent Meter

檢驗設備	規格	數量
萬能試驗機	20 噸	1
光譜分析分光儀	1 米	1
光譜分析分光儀	CCD 光學系統	1
電腦碳當量儀		2
硬度試驗機	HR.HS.HB.	3
金相顯微設備	1500 倍	1
衝擊試驗機		1
拉力試驗機	2.5 噸	1
砂試驗設備		1
砂型壓迫試驗機	1 噸	1
砂型拉力試驗機	1 噸	1
取樣試驗		1
浸入式測溫計		4
楔型試驗設備		1
MT 檢驗設備		1
UT 檢驗設備		1
攜帶式金相試驗設備		1
攜帶式硬度計		1

Inspecition Facilities	Specifications	Quantity
Universal Tester	20 Tons	1 set
Vacuum Emission Spectrometer	1 Meter	1 set
Vacuum Emission Spectrometer	CCD Optical System	1 table
C.E. Meter		2 sets
Hardness Tester	HR.HS.HB.	3 sets
Metallurgical Microscope	1500 X	1 set
Impact Tester		1 set
Tensile Tester	2.5 Tons	1 set
Sand Tester		1 set
Sand Mold Stress Tester	1 Ton	1 table
Sand Mold Tensile Strength Tester	1 Ton	1 table
Sampling Test		1 set
Immersion Thermometer		4 sets
Wedge Inspection Equipment		1 set
MT Tester		1 set
UT Tester		1 set
Portable Metallurgical Tester		1 set
Portable Hardness Tester		1 set



衝擊試驗機
Impact Tester



鑲埋成型機
Mounting Press Machine



金相切割機
Metallurgical Cutter



金相研磨機
Metallurgical Grinding Machine

品質管制設備
QC Equipment



方案設計 Casting Plan Design

砂粒度分部試驗設備
Molding Sand Grain Distribution Tester



透氣試驗
Permeability Tester



砂燒損試驗設備
Sand Burning Tester





砂型壓迫試驗機
Sand Mold Stress Tester





拉力試驗機 H25K-S Tensile Tester with Software Control

砂型拉力試驗機
Sand Mold Tensile Strength Tester



取樣試驗
Sampling Test



侵入式測溫計
Immersion Thermometer



MT 檢驗設備
MT Tester



UT 檢驗設備
UT Tester



攜帶式硬度計
Portable Hardness Tester



攜帶式金相試驗設備
Portable Metallurgical Tester

FCD 品管流程

球狀石墨鑄鐵 Ductile Cast Iron Inspection Process

原物料檢驗 Raw Materials Checking → 熔解 Melting → 球化前成份測定 Composition Test Before Spheroidizing → 球化前溫度測定 Temperature Checking Before Spheroidizing → 球化、接種控制 Spheroidizing & Inoculation Control → 球化後溫度測定 Temperature Checking After Spheroidizing → 鐵水取樣 Melt Sampling → 球化後成份測定 Composition Test After Spheroidizing → 鑄件取樣 Castings Sampling → 物理試驗 Physical Test → 金相分析 Metallurgical Microscope Analysis → 產品檢驗 Product Inspection → 出貨 Delivery

FC 品管流程

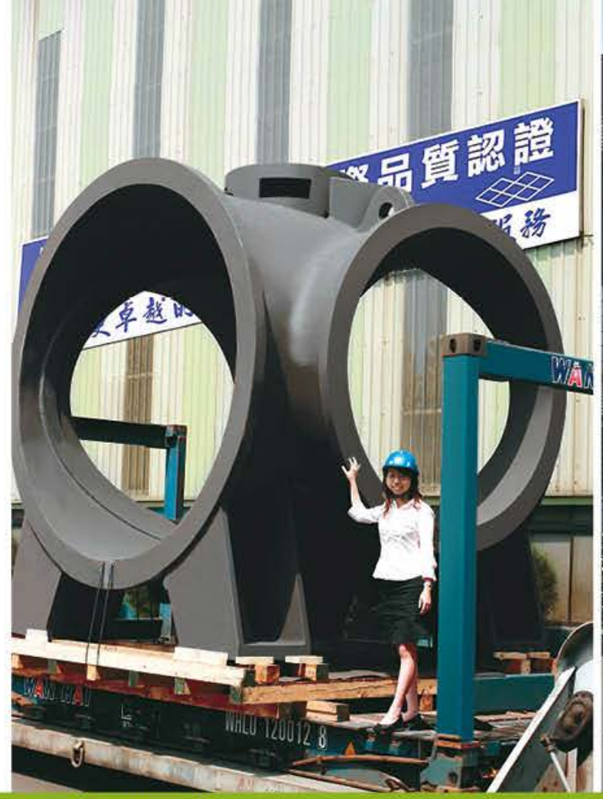
片狀石墨鑄鐵 Grey Cast Iron Inspection Process

原物料檢驗 Raw Materials Checking → 熔解 Melting → 接種前成份測定 Composition Test Before Inoculation → 出爐前溫度測定 Temperature Checking Before Tapping → 接種 Inoculation → 澆鑄前溫度測定 Temperature Checking Before Pouring → 鐵水取樣 Melt Sampling → 接種後成份測定 Composition Test After Inoculation → 鑄件取樣 Castings Sampling → 物理試驗 Physical Test → 金相分析 Metallurgical Microscope Analysis → 產品檢驗 Product Inspection → 出貨 Delivery

產品及出貨
Products & Delivery



印刷板用激光打孔機底座 / 20 呎普通貨櫃
Bed for Laser Drilling Machine/ 20' Dry Cargo Container
- Material: JIS-FC300
- Weight: 16,950 Kgs
- Size: L2,378 x W1,960 x H608 mm



蝶型閥 / 20 呎低板櫃
Butterfly Valve/ 20' Low Floor Container
- Material: JIS-FCD450
- Weight: 17,160 Kgs
- Size: L3,492 x W3,265 x H2,992 x D2,608 mm



立式加工機立柱
Column for CNC Vertical Turning Lathe
- Material: JIS-FC300
- Weight: 60,710 Kgs
- Size: L9,650 x W2,710 x H1,760 mm

螺絲、螺帽成型機本台
Body for Bolt, Nut Former
- Material: JIS-FC300
- Weight: 72,850 Kgs
- Size: L6,880 x W2,500 x H2,630 mm



立式加工機橫樑
Beam for CNC Vertical Turning Lathe
- Material: JIS-FC300
- Weight: 76,150 Kgs
- Size: L14,000 x W2,150 x H2,050 mm



米漢納鑄鐵規格表
Meehanite Cast Iron Specifications

臺灣正昇金屬股份有限公司與世界米漢納鑄鐵公司技術合作，採用米漢納製程以保證鑄件的健全性，避免鑄疵的發生，提高鑄件成功率，並預知鑄件品質等級，以符合規範中各項機械性質之嚴格要求。

Taiwan Cheng Sheng Metal Co., Ltd. cooperates in technologies with world-wide Meehanite Metal Company. We use the Meehanite Production Process to ensure our products to keep high quality and prevent defective. We will also classify our castings to meet a wide range of applications.

片狀石墨鑄鐵 G 型 Grey Cast Iron G Type

米漢納鑄鐵 Meehanite Metal	GM400	GA350	GB300	GC275	GD250	GE200
中華民國 CNS G3038		FC350	FC300		FC250	FC200
日本 JIS G5501		FC350	FC300		FC250	FC200
美國 ASTM-A48	Class60	Class55/50	Class45	Class40	Class35	Class25
德國 DIN1691	GG40	GG35	GG30		GG25	GG20
抗拉強度（以上）kgf/mm² Tensile Strength (more)	40	35	30	28	25	20
勃氏硬度 HBS or HBW Brinell Hardness HBS or HBW	210/280	200/240	190/230	185/225	180/220	170/210

米漢納規格 Meehanite Specifications	特性 Feature	應用範例 Application
GM-GA	在所有的片墨鑄鐵中，具有最高強度。基地組織均一緻密，且淬火性佳，適用大型厚壁鑄件 The most versatile of the general engineering types, have a dense, fine grain structure & exceptional physical properties, including good impact strength & shock resistance. Machining to a very fine finish is recommended for heavy castings requiring pressure tightness. Both types respond to heat treatment.	產業機械及汽機車用汽缸、齒輪、軸承、工具機底座、支柱、鞍座、各種輥輪、閥、一般機械用鑄件 Used extensively for heavy service gears, sheaves, cable drums & crane wheels, kiln tires & rollers, stamping, drawing, pressing, lathe spindles, etc.
GB-GC	為強韌性片墨鑄鐵之代表性材料，抗拉強度大，潤滑性佳且耐壓性高，適於耐壓性鑄件，亦可淬火 A versatile iron for small & medium size castings. Relatively high density & solidity make it ideal for small types of pressure castings.	
GD-GE	僅具普通強度，適於一般機械用鑄件。切削性佳，制震能高，可吸收噪音及震動 A superior alternative to ordinary cast iron in all applications. Manufactured under the same strict control as all Meehanite types, ensuring structural uniformity &soundness. Improved strength & density for consistent, reliable performance.	產業機械用支架、床架、齒輪箱、殼蓋等 Suitable for any size casting, from the lightest repetitive to large, heavy individual castings.

球狀石墨鑄鐵 S 型 Ductile Cast Iron S Type

米漢納鑄鐵 Meehanite Metal	SFF350	SFF400	SF400	SF420	SFP500	SPF600	SP700	SH800
中華民國 CNS B2118	FCD370	FCD400	FCD400	FCD450	FCD500	FCD600	FCD700	FCD800
日本 JIS G5502	FCD370	FCD400	FCD400	FCD450	FCD500	FCD600	FCD700	FCD800
美國 ASTM-A536		60-40-18		65-45-12	80-55-06		120-70-2	120-90-2
德國 DIN1693	GGG35.3	GGG40.3	GGG40		GGG50	GGG60	GGG70	GGG80
抗拉強度（以上）kgf/mm² Tensile Strength (more)	35	40	40	40	50	60	70	80
伸長率Elongation（以上more）%	20	20	15	15	10	4	2	2
勃氏硬度 HBS or HBW Brinell Hardness HBS or HBW	130/160	130/170	140/190	140/190	170/230	200/260	220/280	260/320

米漢納規格 Meehanite Specifications	特性 Feature	應用範例 Application
SH-SP	為波來鐵基地，球墨鑄鐵中具最高抗拉強度。其彈性係數、耐衝擊性及耐內應力性均佳。可利用火焰及高週波感應熱淬火 Ideal for relatively heavy castings where high strength is desired.	產業機械及汽機車用汽缸、曲柄軸、齒輪、軸承 塑膠機械用零件、泵、閥等 Recommended for use where severe stresses, shock or high internal pressures are encountered, e.g. heavy duty gears, sprockets, car journal boxes, etc.
SPF-SFP	毛胚鑄件具有高抗拉強度及韌性，為波來鐵與肥粒鐵之混合基地。適於具強度與韌性之機械零組件 In as-cast condition, has more than twice the strength of conventional gray cast iron & is exceptionally tough. Both have combined ferritic and pearlitic structure, readily machinable. Responds easily to surface hardening by nitriding or flame / electric induction heat treatment.	
SF	具有良好的延性、韌性及耐衝擊性，而其切削性及耐壓性也均佳 Exhibits high ductility, exceptional shock resistance & provides maximum toughness & machinability.	各種大型零件、泵鑄鐵代替品 For components subjected to thermal & mechanical shock, pressure castings, valves, cylinders, automotive &machine tool parts, marine & where soft-steel castings.
SFF	為完全肥粒鐵基地，韌性及耐衝擊性最佳，適用低溫用鑄件 Fully ferritic structure provides maximum toughness & mechanical shock resistance. Recommended for use in subzero temperatures where shock is encountered.	低溫用泵、閥、離合器等 Hubs, valves, clutches & pumps for use in low temp settings, e.g. wind turbines.

環保責任 Environmental Protection



臺灣正昇金屬股份有限公司，自建廠以來，便秉持善盡社會責任，加強工廠污染防治工作並投資興建旋風袋式集塵設備，避免周圍環境受污染，**臺灣正昇**當善盡環保責任，使工業發展與環境保護能兼籌並顧。

Since establishing **Taiwan Cheng Sheng** Metal Co., Ltd., we've treated pollution as a matter of social responsibility. Installation of Cyclone Dust Collectors is one way we prevent environmental contamination. **Taiwan Cheng Sheng** cares about industrial development and the environment.