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COMPANY INTRODUCTION

Cast Steel Products LP (CSP) is a North American company and leading worldwide supplier to OEM and aftermarket of state of the art and innovatively engineered cast, forged and fabricated wear, abrasion and heat resistant products. We have a successful track record of supplying global mining and mineral processing, oil sands, oil & gas, steel, aluminum, cement, power and railway industries, ground engaging & heavy equipment, smelting and crushing application sectors. CSP has sales, engineering and fabrication facilities in Edmonton and Montreal, Canada, St. Petersburg, United States, Beijing and Shanghai, China and Brazil and South Africa. Our head office is in Edmonton.

CSP is a leading worldwide supplier of pallet cars and sinter cars to OEM and the aftermarket. We have many successful working applications of CSP Pallet and CSP Sinter Cars in iron ore pelletizing and sintering plants worldwide having successfully supplied thousands of units in the last 30 years.



CSP PALLET CARS AND SINTER CARS

The CSP Pallet Car for pelletizing consists of a 3 piece body design: the center casting (which is symmetrical and can be reversed for extended use) and the end castings; the wheel assemblies and sealing elements which are designed for extended operation and low maintenance; and the split sidewall design which allows for an easy exchange of the high-alloyed upper sidewall, which is exposed to temperatures up to 1,400 °C. Pellet bed heights up to 550 mm can be realized.

The CSP Sinter Car for sintering is used to air-sweep ore fines and sintering concentrates through the charge layer during sintering belt movement. The car consists of a split or one-piece cast steel body, steel sealing plates, and lattice grate. Use of the seal assembly on the roller adds substantial wear resistance. Our proven design ensures long equipment life and the body design of cast steel iron provides enhanced cost efficiency. It can be applied regardless of the type of the existing sinter machine and or the current pallet width. Existing equipment can be fully utilized to increase the production volume of sintered ore with little retrofitting. Sinter bed heights up to 730 mm can be realized.



BENEFITS TO OUR CUSTOMERS OF CSP PALLET CARS AND CSP SINTER CARS

PROVEN DESIGN DELIVERING REDUCED PLANT OPERATING COSTS, LONGER SERVICE LIFE AND REDUCED MAINTENANCE COSTS

- CSP Pallet Cars and Sinter Cars are uniquely designed and built for maximum performance and durability, with more than 5,000 units delivered in the last 30 years we have proven industry leading longer service cycles and lower maintenance requirements.

RELIABLE AND PREDICTABLE PERFORMANCE

- Our commitment to meeting and exceeding our customer's expectations with excellence in supplying reliable quality custom CSP Pallet Cars and Sinter Cars includes conducting full scale industrial testing of our designs and systems. This testing provides a wealth of operating data to ensure reliable and predictable industry leading pallet car and sinter car performance.

CUSTOM DESIGN AND PRODUCTION CAPABILITIES

- Our experienced sales and engineering departments work closely with the end user to determine exactly what is required in order to supply an engineered custom CSP Pallet Car and Sinter Car manufactured to ASTM, AISI, DIN, JIS, SAE or proprietary standards. CSP provides customized solutions with fast lead times to meet specific customer pellet and sintering process requirements.

Actually achieved lifetime hours of CSP supplied Pallet Cars and Sinter Cars operating hours:

- Iron ore (pellet feed) :157,790 hours – 192,855 hours
- Iron ore (sintering) :157,790 hours – 192,855 hours



CSP PALLET CARS AND SINTER CARS ADVANTAGES INCLUDE:

INNOVATIVE ENGINEERING



SECURITY

RELIABILITY

MAINTAIN-
ABILITY

ADVANTAGES

- Reliability
- Extended service life and increased production and lower maintenance costs
- Pallet cars for sintering and pelletizing
- Components and spare parts
- Customized engineering for many pallet car designs on the market
- Customized solutions to meet specific customer process requirements
- Leading process and engineering expertise coupled with global supply capabilities

As pallet cars and sinter cars are subjected to heavy loads, thermal shock induced from high temperatures in the furnace and the subsequent cooling on the return track as well as severe abrasion during discharge of the ores and sinter our CSP Pallet Cars and CSP Sinter Cars are innovatively engineered from unique state of-the-art wear technology to provide industry leading high wear and extended service life. They are manufactured to ASTM, AISI, DIN, JIS, SAE or proprietary standards.

Our experienced sales and engineering departments work closely with the end user to determine exactly what is required in order to supply an innovative engineered custom solution designed to help customers reduce operating costs, reduce maintenance costs, and increase production yield. As a ISO 9001 certified company, strict QA and QC programs are in place at many levels to insure quality. In addition CSP Pallet Cars and Sinter Cars are custom designed to provide customers with fast lead times and high levels of safety, reliability and maintainability.

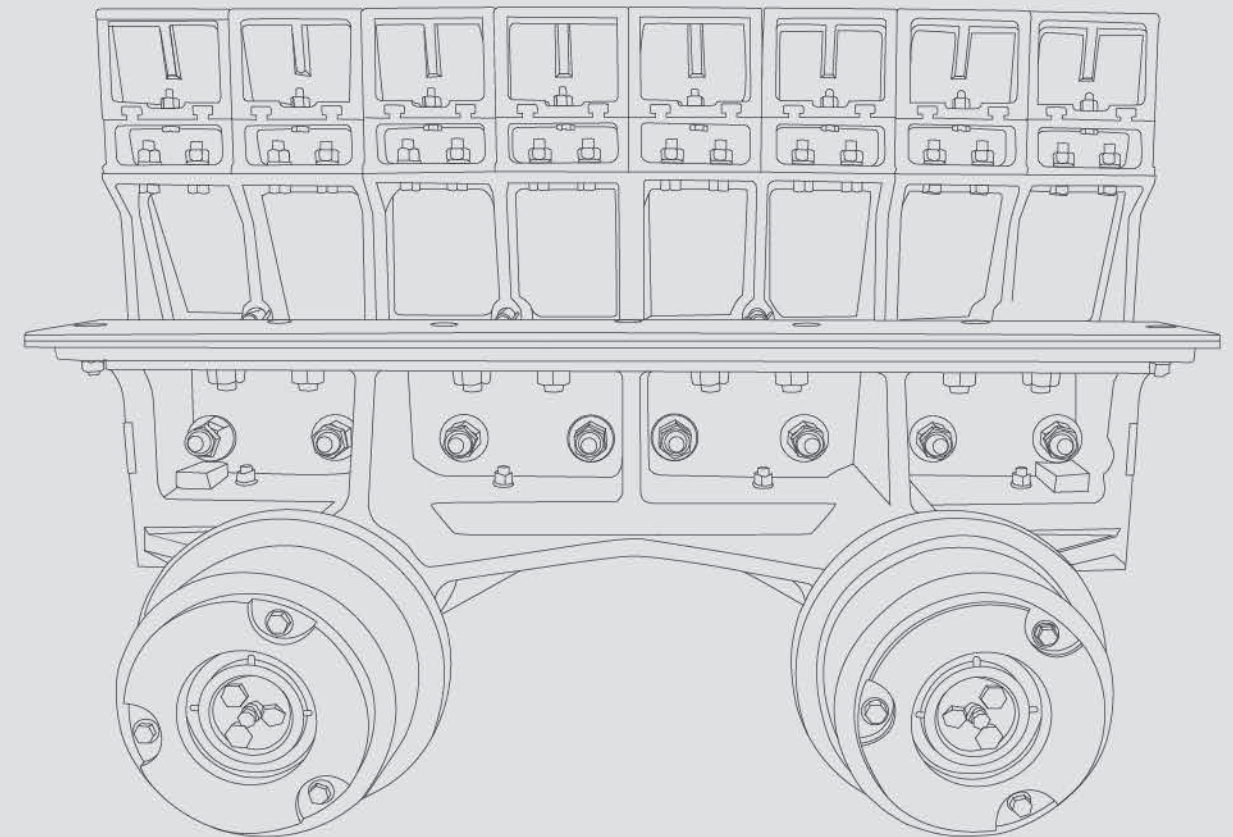
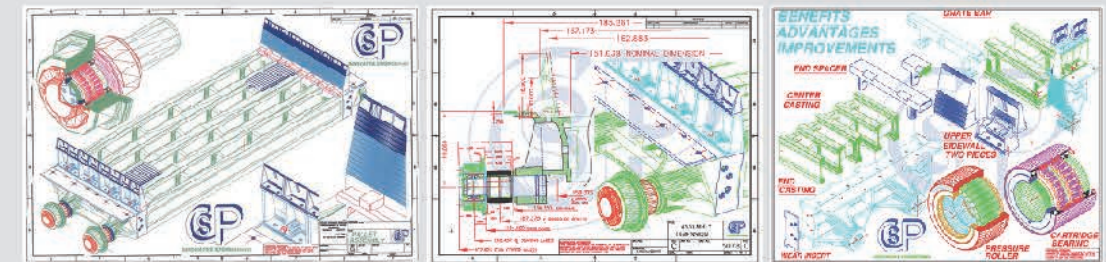
CSP PALLET CARS AND SINTER CARS PARTS AND COMPONENTS



To support our CSP Pallet Car and Sinter Car Solutions we have an extensive range of CSP Pallet Car and Sinter Car Solutions parts and components.

They are custom made from unique state-of-the-art wear technology to provide high wear and extended lifetime in operating conditions of high thermal loads resulting from the high temperatures in the furnace and the subsequent cooling from ambient air, as well as abrasion during discharge.

They are manufactured to ASTM, AISI, DIN, JIS, SAE or proprietary standards. As a ISO 9001 certified company, strict QA and QC programs are in place at many levels to insure quality. In addition CSP Pallet Car and Sinter Car parts and components are custom designed to provide customers with fast lead times and high levels of safety, reliability and maintainability.





www.caststeelproducts.com / www.cspfoundry.com



Center Castings



Grate Bars



Upper & Lower Sidewalls



End Frames



End Casting

PARTS DISPLAY



Seal Bars



Wheel



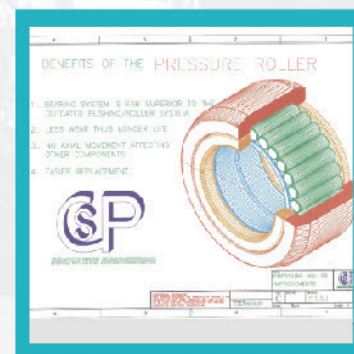
Axles



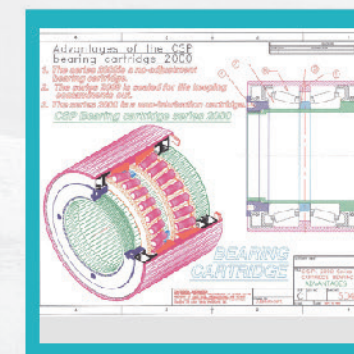
Wear Inserts



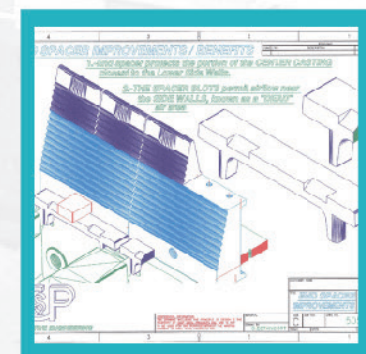
Bushings



Pressure Roll



Cartridge Bearing



End Spacer



QUALITY

CSP as a certified ISO 9001 company, supplies products to our customers with high levels of safety, reliability, maintainability and to minimize downtime and withstand the harshest wear environments. Our products meet or exceed the highest industry standards including ISO 9000, ASTM, AISI, DIN, JIS, SAE or proprietary standards, and are subject to stringent Quality Assurance programs to ensure consistent quality.

CSP products meet or exceed:

- Carbon Steel ASTM A-27
- Mild Steel ASTM A-36
- Low Alloy Steel ASTM A-148
- Gray Iron ASTM A-319
- White Iron ASTM A-532
- Ductile Iron ASTM A-536
- Stainless Steel ASTM A-297
- Manganese Steel ASTM A-128



CUSTOMERS

Cast Steel Products (CSP) is a North American company and leading worldwide supplier of state of the art and innovatively engineered cast, forged and fabricated wear, abrasion and heat resistant products. We have a successful track record of supplying global OEM and Aftermarket customers including:

- Arcelormittal
- Rio Tinto
- Vale
- ThyssenKrupp Industrial Solutions
- Shell
- FAM
- Gol Gohar
- Syncrude
- De Beers
- Suncor
- Dominion Diamond
- FLSmidth
- Weir
- Freudenberg
- Kiewit
- GE Oil & Gas
- Covanta
- Tenova Takraf
- Capital Power
- Diavik Diamond Mines
- US Steel
- Koeppern
- Allegheny Ludlum
- Iron Ore Company
- Glencore
- City of Edmonton
- Dofasco
- Archer Western
- Teck Highland Valley Copper

