ERASTEEL

ASP® 2051

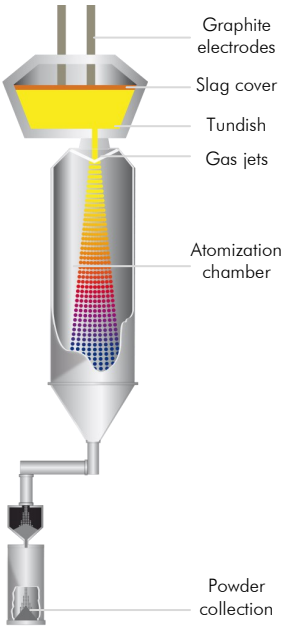
Powder metallurgy grade for saw applications

www.erasteel.com

ERASTEEL, A LEADER IN POWDER METALLURGY

Erasteel is a major player in the High Speed Steel market and the world leading producer of powder metallurgy HSS.
Thanks to the most advanced technology in powder metallurgy and a policy of continuous investments with a strong focus on Research & Development, Erasteel has built a high standard of quality and experience in the processing of steels and alloys.

Unique steels, known under the registered trade name of ASP® are manufactured with this atomization process. With its ASP® range, Erasteel is the world's leading producer of gas-atomized powder metallurgy high speed steels.



ASP® CHARACTERISTICS

ASP® grades have reached an unprecedented level of cleanliness with a low level of large non-metallic inclusions that have been drastically reduced.
The homogeneous microstructure, with an even distribution of small carbides allows ASP® grades to reach unprecedented properties, such as:

- High hardness
- Toughness
- Wear resistance

A NEW GRADE FOR SAW APPLICATIONS

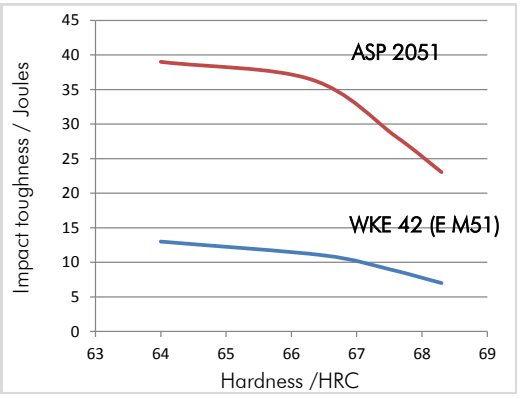
Performance is a key driver in the industry and R&D departments work daily to improve the performance of the saws. Improving the design of the saw is of course important but performance is also strongly connected to the material itself. More and more, PM HSS grades, powder metallurgy High Speed Steels, bring a solution to customers willing to upgrade their products.

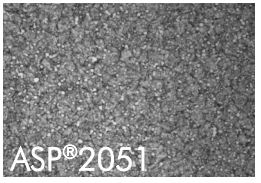
To meet the saw market needs, Erasteel offers in addition to conventional grades as: E M2, ABC III, E M35, E Mat II, E M42, E M51 some ASP® grades like ASP® 2023, ASP® 2030, ASP® 2042 and now ASP® 2051 .

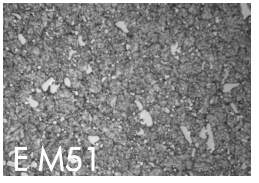
Main features

ASP® 2051 is produced using the ASP® process, which ensures a clean and uniform material with small evenly dispersed carbides and no segregation or carbide streak. This refined structure increases the mechanical strength of the material and allows better sawing performance when using ASP® 2051 compared to the conventional E M51. The high cleanliness of the process gives a high performance consistency, greatly reducing the risk of unexpected failures. The clean uniform structure obtained from the ASP® powder process offers:

- Improved mechanical properties
- Increased and consistent saw performance
- Longer tool life
- Lower cutting forces

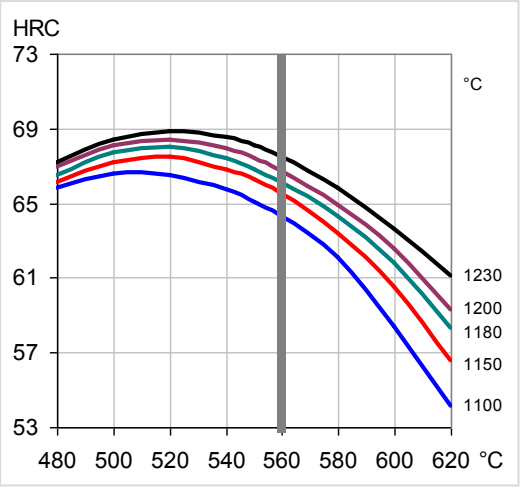






Heat treatment

ASP® 2051 can be heat treated using different hardening temperatures between 1100 °C to 1230 °C and tempering temperatures to allow different resulting hardness from 63 to 69 HRC. For the optimal performance the tempering temperature should be kept at 560 °C and performed three times with cooling to below 25 °C between the temperings.



Chemical composition

Grade	C	Cr	Mo	W	Co	V
ASP® 2051	1.27	4.0	3.6	9.5	10.0	3.2

ASP® 2051 has same chemical composition as conventional E M51 allowing same heat treatment and production process parameters.

ASP® 2051 PRODUCT RANGE

- Bimetal shaped edge wire
- Bimetal round edge wire

SERVICE & TECHNICAL SUPPORT

Erasteel has always given priority to service and technical support through a long-term partnership approach with its customers. Finding the most efficient solutions to meet saw makers' needs is a permanent concern of the company in the fields of sales, logistics and technical service.

Technical Support is essential in Erasteel's philosophy. Through a highly experienced team and high technology equipments, Erasteel offers different services to saw makers:

- On-site visits to provide support on manufacturing issues, such as heat treatment and processing of HSS
- Material and saws examination or testing
- To co-develop new products, work on new ideas and projects and find together the best solutions for the future
- Sessions can be organized at one of your locations or one of our plants

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SAW COMPETENCE CENTER

To support the development of new grades for the sawing application, Erasteel has created a saw competence center. This allows collaboration with saw manufacturers to improve and test new products and improvements. The saw competence center in combination with other analysis equipment allows important parameters to be tested and evaluated:

- Feed forces, cutting forces and displacement
- Saw wear progression
- Tool life evaluation
- Optimal heat treatment
- Optimal tooth setting