ASP® & HSS STEELS FOR
CUTTING TOOL APPLICATIONS

NOW YOU KNOW...
WHAT EXCELLENCE IS MADE OF

www.erasteel.com
ERASTEEL YOUR PARTNER OF CHOICE

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 and a policy of continuous investments, 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 an exclusive atomization process. With its ASP® range, Erasteel is the world’s leading producer of gas-atomized powder metallurgy high speed steels.

ASP® grades have reached an exceptional level of cleanliness with a level of large non-metallic inclusions that has been drastically reduced. The homogeneous microstructure, with an even distribution of small carbides enables ASP® grades to reach unprecedented properties. A higher cutting performance and an excellent productivity can be achieved with ASP® steels.

INNOVATION AND PARTNERING FOR BETTER TOOLS

- A long experience of technical service
- Close cooperation with customers to advise the most appropriate grade for each application
- Training sessions on high speed steel, powder metallurgy, etc.
- New grades in development for specific applications based on customers’ requirements

APPLICATIONS INCLUDE

- Gear cutting
- Broaching
- Tapping
- Milling
- Drilling
- Reaming
- Tool bits
- Other

ASP is a registered trademark of Erasteel
GEAR CUTTING

KEY FEATURES
Over the years, the ASP® brand has become the ultimate standard in gear cutting applications. Combined with modern coating, ASP® enables to achieve significant improvements in gear cutting operations. Leading producers of hobs, shank type or disc type shaper cutters and shaving cutters choose ASP® to gain the best conceivable performance.

PERFORMANCE
A high productivity hobbing cutting speed can be increased significantly with ASP® grades. Thanks to the high strength of ASP® grades, there is less risk of tool breakage, avoiding premature tool scrapping.

RECENT DEVELOPMENTS
Dry cutting: ASP® opens new possibilities in dry machining thanks to the steel’s unique combination of high (hot) hardness and strength. For these demanding applications, Erasteel has developed several grades as ASP® 2048 or ASP® 2055.

High strength sulphurized grades: for those who find it as an advantage in their manufacturing process optimization, Erasteel provides sulphurized grades such as ASP® 2030HS, ASP® 2048HS, ASP® 2052HS or ASP® 2078.

RECOMMENDED ERASTEEL GRADES
Specific solution: ASP® 2030, ASP® 2048, ASP® 2052, ASP® 2055, ASP® 2060 or ASP® 2078.
Sulphurized ASP® grades are also available.
HSS portfolio: E M2, E M35, E M42
BROACHES

KEY FEATURES

ASP® is increasingly popular in broaching since a high performance is required and manufacturing process is tricky. Choosing ASP® for a broach substrate really makes sense because of the many grinding operations to produce a new tool and regrindings after its period of initial use.

PERFORMANCE

ASP® is THE reference for your broaches: ASP®2004 and ASP®2015 are often used as a regular grade in the automotive and aerospace industries.

A longer tool life: ASP® broaches offer higher wear resistance with less chipping and for a longer tool life. ASP® broaches remain sharper longer and can be reground more times than conventional broaches. Sharper edges result in lower cutting forces and better surfaces.

RECENT DEVELOPMENTS

Introducing new brands for broaches, e.g. ASP® 2055 and improving our service from stock are the key actions continuously implemented. We are able to supply from stock a lot of items, flat or square, in many grades in order to reduce your overall manufacturing cycle time.

RECOMMENDED ERASTEEL GRADES

Specific solution: ASP® 2004, ASP® 2015, ASP® 2023, ASP® 2030, ASP® 2052 and ASP® 2055

HSS portfolio: there is always a place in our portfolio for broaches made in E M2, E M35, E M42 or C8.
TAPS

KEY FEATURES

ASP® grades are recommended for precision tapping and for tapping of difficult-to-machine materials. Due to the reduced risk of tool breakage, ASP® taps are a particularly attractive alternative for tapping high-value parts.

PERFORMANCE

Precision taps: As a result of precision grinding, the edges of ASP® taps offer better sharpness with high edge resistance, compared with conventional taps.

Difficult to machine materials: High hardness materials, above 300 HB, are usually difficult to machine with conventional HSS tools. ASP® taps are very efficient to machine materials such as titanium and nickel alloys in the aerospace industry. Wear resistant steels up to 500 HB can also be machined successfully with ASP® taps.

RECENT DEVELOPMENTS

BlueTap®: A superior Grindability

The BlueTap® range helps tap manufacturers to decrease tool manufacturing costs thanks to the following properties:

- Superior grindability
- Additional toughness
- Consistent properties

With these improved characteristics, taps will have a predictable tool life making THE difference vs. conventional M35 or GV3.

RECOMMENDED ERASTEEL GRADES:

Specific solution: From ASP® 2015 to ASP® 2060, around ten ASP® solutions such as ASP® 2030, ASP® 2052 or ASP® 2055 are proposed to find the best compromise between wear resistance, toughness and hot hardness. For any cutting or forming tap, either for blind hole tap or through hole tap.

HSS portfolio: From GrindamaxV3 to E M35, including E M1, E M7, E M42 or C8.

BlueTap is a registered trademark of Erasteel
**END MILLS & MILLING CUTTERS**

**KEY FEATURES**

ASP® opens new perspectives in milling. The powder steel's high hardness and strength makes it especially suitable for use in most type of end mills to ensure high performance as well as safe and predictable operations.

From an economical viewpoint major savings can be achieved, which results in a quick payback on the change to ASP®.

**PERFORMANCE**

An improved productivity: Coated ASP® end mills can be operated at a considerably higher feed rate than conventional end mills. This provides improved productivity in roughing using grades such as ASP® 2030 or ASP® 2052. Cutting performance can also be improved significantly in finishing operations, for instance with ASP® 2060.

A better quality: ASP® end mills are precision tools that facilitate machining with very high dimensional accuracy and improved surface finishing even with long production runs.

**RECENT DEVELOPMENTS**

Safe milling: An important feature for ASP® end mills is the predictable operating lifetime, which simplifies planning and control of operations, particularly on unmanned NC machines. For example, with its high toughness, ASP®2017 is an excellent solution if you face problem of vibrations during rough milling.

**RECOMMENDED ERASTEEL GRADES:**

**Specific solution:** ASP® 2004, ASP® 2015, ASP® 2017, ASP® 2030, ASP® 2052 and ASP® 2060 are the most efficient grades for your end mills or milling cutters.

**HSS portfolio:** Erasteel can also provide conventional HSS grades such as C8, E M42, E M7 or E M35.

From small diameter end mills designed for deep slotting and pocketing to large milling cutters, there is at least one ASP® solution.
DRILLS, REAMERS, TOOLBITS, DEBURRING TOOLS

DRILLS

**Key Features**
ASP® drills feature an astonishing combination of strength and hardness. Spectacular results can be achieved in combining high alloy ASP® grades and modern coatings.

**Performance**

Productive drilling: With ASP®, the drill feed rate can be increased far above normal values. ASP® drills can often match the productivity of carbide drills.

Successful in difficult drilling operations: ASP® drills are most suitable for drilling difficult materials, such as high wear-resistant steels, nickel and titanium alloys and stainless steels. ASP® drills are also recommended for such situations as stacked plates, inclined planes and crossing holes.

Safe drilling: Thanks to their high strength, ASP® drills break less often than carbide drills. This is particularly advantageous in unstable conditions and for long production series.

**Recommended Erasteel Grades:**
- Specific solution: ASP® 2004, ASP® 2015, ASP® 2030, ASP® 2052 and ASP® 2060
- HSS portfolio: E 945, E M1, E M2, E M35, E M42, E M50 and E M52

REAMERS

**Recommended Erasteel Grades:** E M3-2, E M35 or ASP® 2030

TOOLBITS

**Recommended Erasteel Grades:** WKE42, WKE45, E M2, E M42, ASP® 2015 or ASP® 2060.

DEBURRING TOOLS

**Recommended Erasteel Grades:** E M2 or E M35
## RECOMMENDED GRADES

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Legend:
- Regular grade
- Better than average performance
- Exceptional performance

This ranking is provided for information purposes. Please contact our sales and technical network to select the most accurate grades fitting your application needs.