



Plate

Flame Cut Products: Thermal cutting capabilities for plate steel shapes



Various thick flame-cut parts including bearing blocks.

Definition

ArcelorMittal USA "Flame Cut Products" are shapes burned out of rolled plate using computer-generated programs that guide torches along a cutting path through the plate. The plate for cutting is located on a flat cutting bed at our Coatesville and Conshohocken, PA facilities. The bed could be a water table that extracts heat to cool parts, helps maintain flatness and minimizes smoke. ArcelorMittal USA Plate facilities produces flame cut products with a wide range of benefits that include:



Large diameter circles and arms for mining equipment.

- Broadest thickness/size range in the industry
- Flexible chemistries, including Carbon, HSLA and Alloy
- Additional processing of parts
- Lead time
- Freight savings
- Competitive pricing
- Surface quality, flatness and edge quality (perpendicularity and smoothness) within marketplace standards

Size Limits

Thickness	1/4" to 28"
Width	Up to 177" *
Lengths	Up to 600" *
Specifications	Any plate specification
Weight	Refer over 52,000 lbs.

Minimum rolling quantity may be required

Minimum part size >18" on length and width **

* Larger sizes by referral.

** Smaller sizes by referral.

Advantages of Flame Cut Products

- Parts ship ready for assembly, saving floor space and time
- Plate weight minus part weight, resulting in a scrap credit advantage
- Freight cost is based on part ship weight, rather than raw plate weight
- Parts are nested to yield advantages, rather than using 96" x 240" stock material
- Additional processing (i.e., heat treatment, flattening, grinding) is available
- Pricing extras like flattening are based on part not plate weight
- Risk is minimized by having ArcelorMittal USA supply finished parts

Typical End Uses

Presses	Injection molding machines
Fuel tanks	Railroad equipment
Tube sheets	Mining equipment
MRI equipment	Dock levelers
Mill housings	Stripped plate for bridge girders
Wind mill turbines	Trailer axle housings
Construction equipment	Building structurals



3-1/4" x 20" wide stripped plate pieces.



27" thick piece for machine tool press with through-holes.



Truck axle blanks cut at Piedmont Plate Processing.



21" thick press crown.

Other Capabilities Complementing Flame Cut

- Heat treating – stress relieving, normalizing, annealing, quenching, tempering
- Flattening
- Flame beveling
- Surface/edge machining or grinding
- Blasting
- Painting
- ID stamping/markings
- Mechanical property and non-destructive testing

Facility List

Type of Burning

Coatesville	4 torch oxy-fuel
Coatesville	2 x 2 torch oxy-fuel
Coatesville	2 torch plasma
Coatesville	2 torch plasma
Conshohocken	6 torch oxy-fuel
Piedmont Plate Processing	4 torch N plasma 4 torch O ₂ plasma



Coatesville 4-torch oxy-fuel cutting line.

Material Tolerances

In general, tolerances for gauge, width, length, flatness, waviness, camber and actual part geometry are grade and shape dependent, and will meet or exceed ASTM A6 and A20, whichever is applicable.

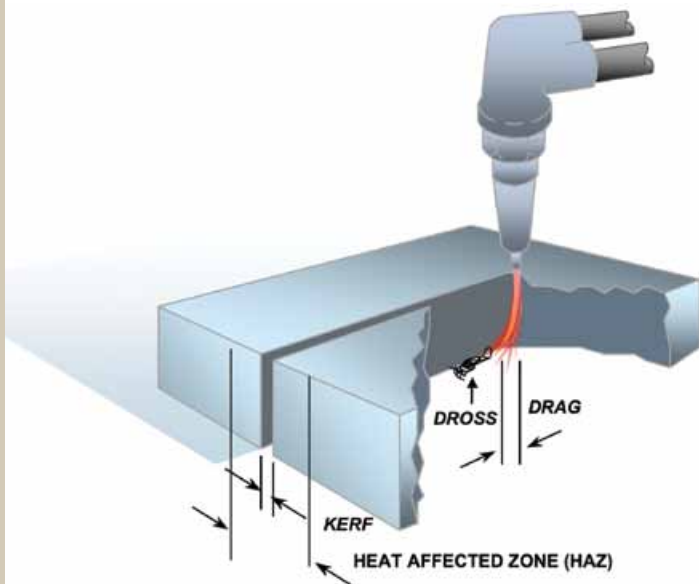
Final tolerances can be quoted after receipt and review of customer specifications and/or drawings.

See the [“Guidelines for Fabricating and Processing Plate Steel”](#) booklet for:

- Details on Heat Affected Zone – Pages 31-32
- Details on pre-post heating – Pages 32-33
- Metallurgical influences on cut edge quality – Page 33
- Details on plasma cutting – Page 34
- Guidelines for cutting – Pages 36-37



27" thick building structural element.



Terminology used to describe thermal cutting affects on plate steel components.

Further Information

Contact Fred Buckel at ArcelorMittal USA at +1 410 598 4244 or email at: fred.buckel@arcelormittal.com

Continuing updates of this information can be found on our website at: <http://www.arcelormittal.com>



Components for mining equipment.

All information in this brochure is for the purpose of information only. ArcelorMittal USA reserves the right to change its product range at any time without prior notice.

ArcelorMittal USA

Corporate Office
1 South Dearborn Street
18th Floor
Chicago, IL 60603-9888
USA

T +1 800 422 9422
www.arcelormittal.com

ArcelorMittal USA

Plate
ARC Building
139 Modena Road
Coatesville, PA 19320-0911
USA

T +1 800 966 5352
www.arcelormittal.com

ArcelorMittal USA

Plate
250 West U.S. Highway 12
Burns Harbor, IN 46304-9745
USA

T +1 800 422 9422
www.arcelormittal.com