

Specialty Stainless Sheet & Strip Stainless Price Book

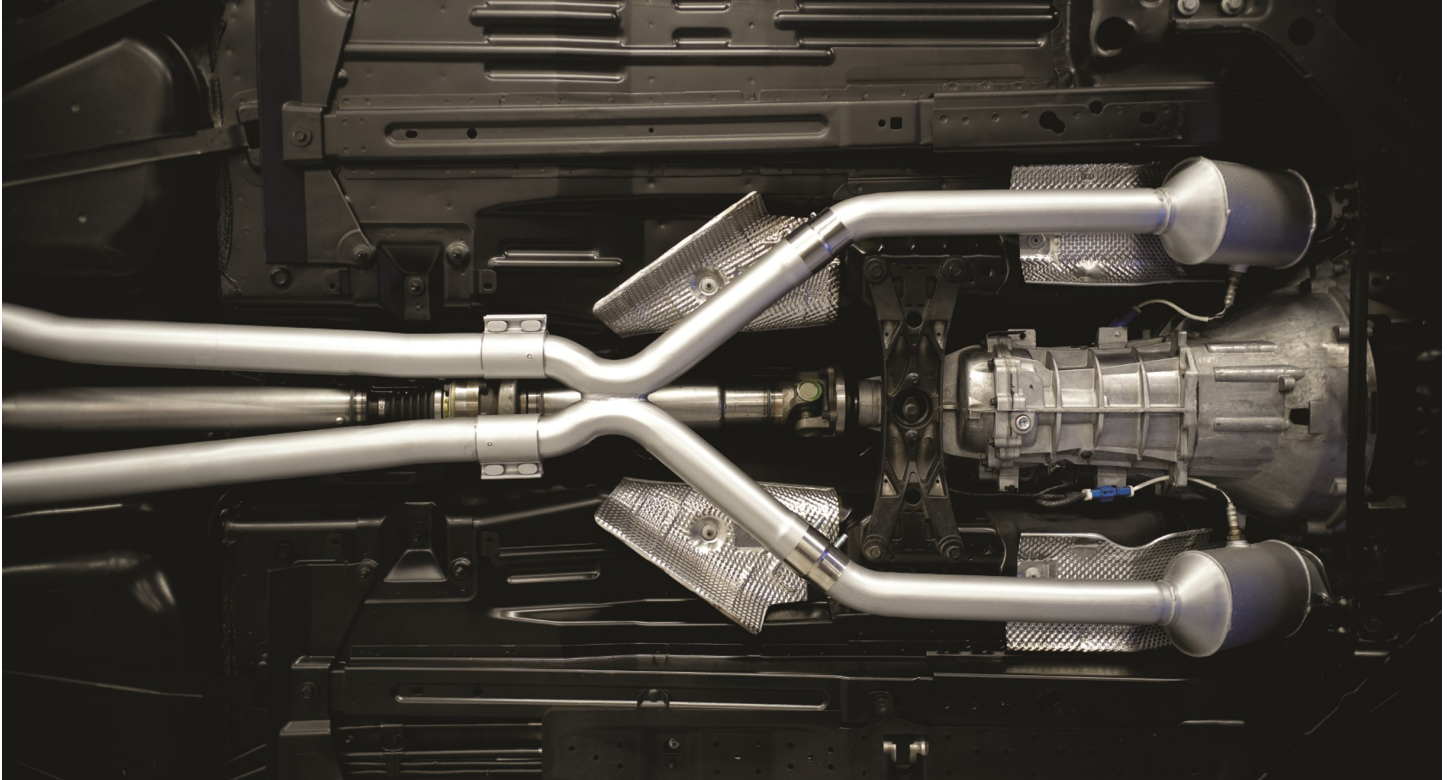


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Specialty Stainless Sheet

200/300 SERIES GRADES

STAINLESS SHEET

Dollars Per Pound
Price in effect at time of shipment
Effective November 1, 2019

BASE PRICES

Grade	NITRONIC® 30	201	201LN	301	302	304	304L	305
Base/lb.	1.3850	1.4000	1.5000	1.3400	1.4000	1.4000	1.5000	2.1600

Grade	NITRONIC® 19-D	309S	310S	316	316L	317L	321	2205
Base/lb.	1.5000	2.7700	3.7100	1.9800	1.9800	2.4900	1.9400	2.7500

GAUGE AND WIDTH EXTRAS - COILS

Gauge	Thickness, in.	36 in. Exact	42 in. Exact	48 in. Exact	60 in. Exact
7 & 8	0.1601 - 0.1874	0.5250	0.5700	0.4200	0.3600
9 & 10	0.1301 - 0.1600	0.4500	0.5700	0.3600	0.3600
11	0.1141 - 0.1300	0.4500	0.5700	0.3600	0.3600
12	0.0981 - 0.1190	0.4500	0.5700	0.3600	0.3600
13	0.0831 - 0.0980	0.4500	0.5700	0.3600	0.3600
14	0.0721 - 0.0830	0.4500	0.5700	0.3600	0.3600
15	0.0651 - 0.0720	0.4625	0.5800	0.3700	0.3700
16	0.0581 - 0.0650	0.4750	0.5900	0.3800	0.3800
17	0.0521 - 0.0580	0.4875	0.6100	0.3900	0.3900
18	0.0461 - 0.0520	0.5125	0.6200	0.4100	0.4100
19	0.0401 - 0.0460	0.5500	0.6500	0.4400	0.4400
20	0.0351 - 0.0400	0.6375	0.8500	0.5100	0.5100
21	0.0321 - 0.0350	0.8250	0.9500	0.6600	0.6600
22	0.0291 - 0.0320	0.9125	1.0200	0.7300	0.7300
23	0.0261 - 0.0290	1.0750	1.1500	0.8600	0.8600
24	0.0231 - 0.0260	1.1625	1.2300	0.9300	*
25	0.0199 - 0.0230	1.2500	1.4300	1.0000	*
26	0.0178 - 0.0198	1.4000	1.6500	1.1200	*
27	0.0161 - 0.0177	1.5625	1.8700	1.2500	*
28	0.0150 - 0.0160	1.6000	2.1100	1.2800	*

Inquire for other widths. All grades are not available in sizes shown.

Note: * items, 15-5 PH®, PH 15-7 Mo®, 17-4 PH®, 17-7 PH® please inquire with your AK Steel Sales Representative. The mean thickness will determine the size extra to apply. Raw material surcharges will be added at the time of invoice. Material is sold in Product of a Coil increments.

Specialty Stainless Sheet

400 SERIES GRADES

STAINLESS SHEET

Dollars Per Pound
Price in effect at time of shipment
Effective November 1, 2019

BASE PRICES

Grade	410	410H	420	420HC	430	434	435 Mod	436
Base/lb.	0.8900	0.9500	1.0200	1.0500	0.7900	0.9900	1.0700	1.0700

Grade	436M2	436L	439	444	18 SR [®]	13-4 SR [®]	CHROMESHIELD [®] 22	CHROMESHIELD [®] 29Mo
Base/lb.	1.1700	1.0700	1.1300	1.5100	1.6550	2.2725	1.05	3.25

GAUGE AND WIDTH EXTRAS - COILS

Gauge	Thickness, in.	36 in. Exact	42 in. Exact	48 in. Exact
8 through 12	0.0981 - 0.1874	0.5250	0.6200	0.4200
10	0.1301 - 0.1450	0.5250	0.6200	0.4200
11	0.1141 - 0.1300	0.5250	0.6200	0.4200
12	0.0981 - 0.1190	0.5250	0.6200	0.4200
13	0.0831 - 0.0980	0.5250	0.6200	0.4200
14	0.0721 - 0.0830	0.5250	0.6200	0.4200
15	0.0651 - 0.0720	0.5375	0.6300	0.4300
16	0.0581 - 0.0650	0.5375	0.6400	0.4300
17	0.0521 - 0.0580	0.5500	0.6500	0.4400
18	0.0461 - 0.0520	0.5625	0.6600	0.4500
19	0.0401 - 0.0460	0.5875	0.6800	0.4700
20	0.0351 - 0.0400	0.6625	0.7400	0.5300
21	0.0321 - 0.0350	0.7875	0.9500	0.6300
22	0.0291 - 0.0320	0.8500	1.0100	0.6800
23	0.0261 - 0.0290	1.0125	1.1400	0.8100
24	0.0231 - 0.0260	1.0750	1.2000	0.8600
25	0.0199 - 0.0230	1.1750	1.2800	0.9400
26	0.0178 - 0.0198	1.3000	1.3600	1.0400
27	0.0161 - 0.0177	1.7375	1.8100	1.3900
28	0.0150 - 0.0160	1.8875	1.9300	1.5100

Inquire for other widths. All grades are not available in sizes shown.

Note: Automotive grades 409, 409Ni, 436L, 439, 441, 15 Cr-Cb[®], 18 Cr-Cb[®], THERMAK[®] 17, Aluminized 409 & 439 please inquire with your AK Steel Sales Representative.

The mean thickness will determine the size extra to apply. Raw material surcharges will be added at the time of invoice. Material is sold in Product of a Coil increments.

Specialty Stainless Sheet

Stainless Steel Chemistry/Quality Extras

Finish Extras

Hot Rolled Annealed & Pickled	-0.0300
2D/2B Buffing Quality	0.0300
Bright Annealed - 300 Series	0.1500
Bright Annealed - 400 Series	0.1200

Strand Leveling Extra

Slitting with leveling equipment, if specified	0.0400
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Small Coil Extra

Less Than 150 pounds per in. of width	0.0250
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Close Tolerance Extra

Closer than Standard but not closer than 1/2 standard	
Width	0.0350
Thickness	0.0400
Camber	0.0425

Heat Treating Extra (410H only)

0.015 in. and heavier, any width	0.3500
Under 0.015 in., any width	0.4500

Deep Draw Quality Extra

Deep Draw Quality Extra (waive if Ni extra is charged)	0.0500
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Continuous Line Marking

Single Line Mark	0.0200
Multiple Line Mark	0.0300

CHEMISTRY EXTRAS

(May affect surcharge calculations)

Min. Nickel	\$/lb.	*Max. Carbon	\$/lb.	Min. Molybdenum	\$/lb.
201 5.00%	0.0300	0.03%	0.0800	316/L 2.25%	0.0200
301 7.00%	0.0300	0.04%	0.0550	316/L 2.50%	0.0600
304/L 8.50%	0.0300	0.05%	0.0350	316/L 2.75%	0.1000
304/L 9.00%	0.0575	0.06%	0.0200	Max. Phosphorus	\$/lb.
304/L 9.50%	0.0875	0.07%	0.0100	304/L 0.03%	0.0200
		*Except 304L & 316L		316/L 0.03%	0.1350

The mean thickness will determine the size extra to apply. Raw material surcharges will be added at the time of invoice.

Specialty Stainless Sheet

Stainless Steel Chemistry/Quality Extras Continued

Tension Leveling / Finish / Polyfilm Extras

Gauge	Thickness	Tension Leveling	UNIGRAIN® UNIGRIT	#3 or #4 Polish	Standard Polyfilm*
7 thru 9	0.1451 - 0.1874	*	*	*	*
10	0.1301 - 0.1450	0.0700	*	*	*
11	0.1141 - 0.1300	0.0750	*	*	*
12	0.0981 - 0.1190	0.0750	0.1150	*	*
13	0.0831 - 0.0980	0.0750	0.1150	0.1650	*
14	0.0721 - 0.0830	0.0800	0.1200	0.1750	*
15	0.0651 - 0.0720	0.0800	0.1200	0.1750	*
16	0.0581 - 0.0650	0.0850	0.1200	0.1750	*
17	0.0521 - 0.0580	0.0850	0.1200	0.1750	*
18	0.0461 - 0.0520	0.0850	0.1200	0.1750	*
19	0.0401 - 0.0460	0.0900	0.1200	0.1750	*
20	0.0351 - 0.0400	0.0950	0.1450	0.2050	*
21	0.0321 - 0.0350	0.1000	0.1450	0.2050	*
22	0.0291 - 0.0320	0.1200	0.1500	0.2150	*
23	0.0261 - 0.0290	0.1200	0.1550	0.2200	*
24	0.0231 - 0.0260	0.1200	0.1575	0.2250	*
25	0.0199 - 0.0230	0.1200	0.1675	*	*
26	0.0178 - 0.0198	0.1200	0.1775	*	*
27	0.0161 - 0.0177	0.1400	*	*	*
28	0.0150 - 0.0160	0.1600	*	*	*

TENSILE EXTRAS

Gauge Range	1/4 Hard TS-125,000 min. psi. or Rc 25 min.	1/2 Hard TS-150,000 min. psi. or Rc 30 min.	3/4 Hard TS-175,000 min. psi. or Rc 35 min.	Full Hard TS-185,000 min. psi. or Rc 40 min.	Extra Hard TS-200,000 min. psi. or Rc 45 min.
0.1874 - 0.0120	0.0800	0.0800	0.0800	0.0800	0.0800

Packaging

Coils	\$20.00 Each
Sheet Skids to 144 in.	\$80.00 Each
Sheet Skids over 144 in.	Inquire
Export Skids Coils	\$0.01 per lb.

Note: * items, please inquire with your AK Steel Sales Representative.

The mean thickness will determine the size extra to apply. Raw material surcharges will be added at the time of invoice.

Stainless Manufacturing Claims Policy

General

The purpose of our claim policy is to support our customer's manufacturing performance in accordance with AK Steel's Conditions of Sale and the limited warranties provided by AK Steel to the Customer therein. This requires thoughtful cooperation in settling claims. This policy is not intended to cover every claim situation and AK Steel may handle any claim on an individual basis.

Steel determined to be unusable because of mill-related reasons should be set aside for review with the appropriate AK Steel personnel. This includes blanks, cut lengths, coils, or slit mults from coils. When an individual coil or slit mult contains an apparent high frequency of mill imperfections, it should be set aside only after a minimum of 10% of the coil has been processed.

In its Conditions of Sale, AK Steel provides a warranty that the products will be of merchantable quality. Accordingly, the customer can expect 98% satisfactory product in coil shipments of sheet steel products. If, because of coil ends or mill related imperfections, these standards are not met, a claim for the value of the material may be honored after review by appropriate AK Steel personnel.

Material tested and certified to meet an agreed upon specification for mechanical, physical, and magnetic properties is done under guidelines outlined by ASTM, JIS, DIN, or other mutually accepted industry standard testing requirements. Material and testing variations may result in disputes over material conformance. In such cases, samples from the area of suspected non-conformance must be secured for AK Steel to verify compliance. Also of note, material is to be tested in the quarter position of the width in the manner prescribed by the specification or determined by the producing mill if no such specification requirement exists.

Part forming performance on material produced by AK Steel to the customer purchase order requirements is influenced by press, tooling and lubrication interaction. Part performance expectations rely on the ordering of the appropriate product for the specific part forming requirements.

AK Steel expects to be reimbursed Scrap Credit by the customer for all material scrapped as part of a claim resolution where AK Steel is found responsible for the scrap. The credit will be determined on a monthly basis using the current scrap values as published in the American Metal Market (AMM) in the geographical region closest to the customer. No material is to be scrapped without prior approval from AK Steel.

CLAIM LIMITATIONS

Customer's Remedies

AK Steel's warranty liability under its Conditions of Sale is limited to the obligation to repair or replace only those portions of products proven to have failed to meet in a material respect the specifications on AK Steel's Order Acknowledgment or Invoice or to have been defective in quality or workmanship at the time of delivery.

Alternatively, AK Steel may allow credit therefor, at its option. AK Steel's total cumulative liability in any way arising from or pertaining to any product sold to the customer shall not in any case exceed the purchase price paid by the customer for such product. In no event shall AK Steel have any liability for commercial loss, claims for labor, or consequential or incidental damages of any type, whether the customer's claim be based in contract, tort, warranty, or strict liability, or otherwise.

Timing

Any claim that the products received by the customer do not conform in material respect to the specifications on the face of AK Steel's Order Acknowledgment or Invoice must be made within sixty (60) days of receipt of shipment or the customer's claims will be barred. In addition, AK Steel must be given an opportunity to investigate the claim before the customer disposes of the material, or the customer's claim will be barred. AK Steel shall incur no liability for damage, shortages, or other cause alleged to have occurred or existed at or prior to delivery to the carrier unless the customer shall have entered full details thereof on its receipt to the carrier.

Stainless Manufacturing Claims Policy

Liability for Delay

In no event shall AK Steel be liable for any claims for labor or for any consequential or incidental damages or any other damages resulting from delay in delivery. No delivery dates are guaranteed.

Scale Weight

A variation between AK Steel's and the customer's scale weight or theoretical weight determination up to 1% shall be permissible. Claims can be submitted for weights that are considerably outside the 1% variation. For multiple coils, claims for weight variation will be evaluated over a defined time frame (monthly, quarterly, etc.).

Surface Quality

It is the desire of AK Steel to produce surface quality consistent with customer expectations for the intended applications. This does not mean the steel will be totally free from imperfections. In some cases, it is expected that a cooperative effort will be made by AK Steel and the customer to conclude whether the product will satisfactorily make the intended part. The surface of the material shall be reasonably clean and essentially free from manufacturing defects such as holes, mill marks, slivers, and so forth, which would interfere with its effective use in the intended application. After thorough review with the customer, AK Steel's Customer Technical Service (CTS) Representative will be responsible for concluding "Fitness for Use" in the context of the cooperative decision making process, customer's needs, and steel replacement cost and timing.

Side Orientation

AK Steel provides a single side prime product with the prime side orientation up/out as shipped unless specified on the purchase order or agreed to prior to shipment.

Coil Set

Claims for coil set will not be allowed unless agreed to at the time of order entry for a special product that allows for processing to remove this condition.

Freight Claims

These guidelines are intended to help clarify the proper procedures for handling claims for material damaged or lost in transit. The consignee must inspect coils at the time of receipt and record any signs of moisture or torn packaging upon a receiving inspection document, and notify AK Steel within 10 days of receipt. Loss and/or damage can be either visible on delivery to the consignee or concealed and not discovered for an indeterminate length of time. The consignee must mitigate the loss by storing and protecting the goods from further deterioration and assist in the repair and salvage unless carrier agrees that goods are valueless. Complete understanding of the following points by personnel involved in receiving and claim processing will improve communications with carriers and may help to expedite the settlement of claims. The consignee must accept all shipments unless the goods are valueless. Goods which have a scrap value may not be valueless. Refusal to accept goods invokes Section 4 of the Bill of Lading contract, and the consignee may be found to be in default of the contract of sale, resulting in back charges. Photographs of damaged goods are helpful for settling claims quickly, especially if the damaged goods are photographed in place on carrier's equipment. Each situation requires a specific method of handling as previously outlined. Loss and/or damage claims must be filed with appropriate claim agent of the delivering carrier within 60 days after delivery of material.

Stainless Manufacturing Claims Policy

When shipments are made FOB Mill, the customer files the claim. When shipment is made FOB Destination, AK Steel files the claim. A formal claim must include the following or the claim will be barred:

1. Original Bill of Lading or Bond of Indemnity
2. Original paid Freight Bill or Bond of Indemnity
3. Pricing letter stating cost of material
4. Delivery receipt with loss and/or damage notation (motor carrier only)
5. Inspection report
6. Itemized statement of all loss and/or damage costs including mitigation costs
7. Photographs, if available
8. Any other supporting documents

Permissible Variations

The products sold hereunder shall be subject to AK Steel's standard manufacturing variations, tolerances and classifications, all of which are available at AK Steel's website, www.aksteel.com

Maintenance of Claimed Material

Claimed material may be reapplied or resold at AK Steel's discretion and should be packaged/stored as prime in all cases to allow for that action.

STAINLESS STEEL EXCLUSION

Ridging

To a certain degree, ferritic grade stainless steels are subject to a condition referred to as "ridging" or "roping" after deformation. This involves heterogeneity of deformation oriented in the rolling direction. This condition can negatively impact the surface appearance and may necessitate extra finishing on formed parts.

AK Steel produces an ULTRA FORM® version of several ferritic grades. The processing of these grades is designed to promote a uniform equiaxed grain structure that enhances material formability and improves resistance to ridging and roping.

Ferritic applications that involve complex shapes or are cosmetic in nature should be reviewed with AK Steel's Customer Technical Service (CTS) Representative during the order entry process to insure that the appropriate grade is applied.

Stains

Commercial 2B surface product may have surface color variation from edge to edge and/or from end to end within a coil and between coils. Unless otherwise agreed to by AK Steel and the customer at the time of order entry, light streaks and/or stains that can be removed by applying a standard polish #3 or #4 finish are considered acceptable.

Various types of surface discolorations and stains may be present on the surface of auto chrome stainless steels. These surface conditions can set-up / appear after final mill processing. AK Steel Research and Innovation has performed numerous corrosion evaluations for many of these stains. These evaluations indicate that these conditions are cosmetic and should not impact to part performance for automotive exhaust applications. Therefore, each surface discoloration and stain event will be reviewed on a case by case basis for claim consideration.

Stainless Manufacturing Claims Policy

Subsurface Inclusion Policy

Sidewall tears after deep drawing operations tend to be the result of a nonmetallic inclusion below the visible surface of the steel that opens to the surface and becomes apparent on the part during forming. Subsurface inclusions are unavoidable in the melting processes of stainless steel and are intrinsic in all metals. The severity of the sidewall tear depends on the location of the inclusions, the difficulty of the draw, and the gauge of the material. AK Steel has implemented several proprietary improvements to the melt practice to reduce the level of inclusions in their products, especially those used in deep drawing applications.

After melting and casting of stainless steel, it is not possible to remove inclusions during the processing of coil product. The first opportunity to differentiate and identify subsurface inclusions that form sidewall tears occurs after the parts are deep drawn. As a result, we cannot absolutely eliminate inclusions during the melting and casting operation. Therefore, we do not accept claims for inspection, sorting of laminated parts or for excessive scraped quantities of parts containing laminations which resulted from the deep drawing process.

Historically, consumers of stainless steel that practice deep draw processing often incur tolerable rejection rates that are very minimal. Usually the number of parts exhibiting sidewall tears due to inclusions is minor and so in order to isolate reject parts, sorting inspection may be necessary.

AK Steel may consider claims for return of raw material when it can be established that the lamination recurrence rate is significantly greater than historical levels. However, before such claims may be considered, a control level must first be determined for each combination of alloy, material thickness, and draw practice. Or an agreed to percentage prior to order acceptance.

Bright Trim

For bright trim applications, Coshocton Works has developed an inspection standard for these types of applications. Sales and CTS will review this standard with the customer during order review. Any potential claims must be viewed against this standard to determine validity of the claim.

Flatness

Flatness deviation will be measured from a flat surface when adequate flattening measures are performed as described in the appropriate ASTM standard. ASTM Standard flatness tolerances will prevail unless tighter tolerances have been agreed to by AK Steel and the customer at the time the order was entered. There are no guarantees on flatness on fully annealed product nor are there any guarantees on flatness for ¾ hard and full hard tensile rolled product unless previously agreed to by AK Steel and the customer.

Rust

Discoloration and stain are inherent hazards when moisture, including “in-transit” weather condensation, accumulates between laps of coils or sheets. Rust claims will only be considered to the original ship destination. Upon receipt, all shipments should be inspected immediately for moisture on the package. If evident, a notation of the condition must be made on the shipping papers in the presence of the steel hauler and the carrier notified. For material sold FOB Mill, a claim should be filed against the carrier and the AK Steel Sales Office notified. If no moisture is evident on the outside packaging and rust is present after unpacking, a complaint must be presented immediately. A claim must be filed within 60 days from the date of receipt.

Trademark/Copyright

AK STEEL[®], AK TUBE[®], the AK Steel logo and the other marks shown below carrying the [®] designation are all registered trademarks of the AK Steel Corporation and registered with the U.S. Patent and Trademark Office. The other trademarks listed below are also owned by AK Steel. None of the AK Steel trademarks may be used without AK Steel's prior written permission.

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13-4 SR [®]	PAINTGRIP [®]	311 DQ [™]
15 Cr-Cb [®]	PH 15-7 Mo [®]	17-14 Cu Mo [™]
15-5 PH [®]	POLYGLIDE [®]	1 SR [™]
17-4 PH [®]	STONE MATTE [®]	2 SR [™]
17-7 PH [®]	T2 [®]	6 SR [™]
18 SR [®]	THERMAK [®]	12 SR [™]
ALUMI-THERM [®]	TRAN-COR [®]	18-9 LW [™]
AQUAMET [®]	ULTRA FORM [®]	AK-SPECTRA [™]
ARMCO [®]	ULTRA HONE [®]	ANTI STICK [™]
CARLITE [®]	ULTRALUME [®]	BORON STEEL [™]
CHROMESHIELD [®]	ULTRASMOOTH [®]	CEM [™]
DI-MAX [®]	UNIBRITE [®]	EXTRASMOOTH [™]
DR [®]	UNIGRAIN [®]	FORMABLE [™]
ELECTRASMOOTH [®]	UNIVIT [®]	HCR [™]
GREYSTONE [®]	VIT-PLUS [®]	HIGH PERFORMANCE-10 [™]
ILUMIBRITE [®]	ZINCGRIP [®]	ORIENTED LS [™]
LITE CARLITE [®]	OPTIMET [™]	ULTRACHEM [™]
NEXMET [®]	11 Cr-Cb [™]	
NITRONIC [®]	18 Cr-Cb [™]	

Warranty Statement

The information and data presented in this Price Book are typical of average values and not a guarantee of maximum, minimum or actual values. Materials specifically suggested for applications described herein are made solely for the purpose of illustration to enable the reader to make their own evaluation. While the information is believed to be technically correct, **AK Steel disclaims all warranties, expressed or implied, including but not limited to, any warranty as to its merchantability or suitability for any general or particular use. AK Steel will not be liable for any damages or any kind of arising out of or relating to the use of or the inability to use the information provided, including but not limited to, ordinary, special, incidental, exemplary or consequential damages, whether based upon contract, tort or any other legal theory, whether foreseeable or not, and even if AK Steel has been advised of the possibility of the damages.**

All orders are subject to AK Steel's Condition of Sale found on the AK Steel website.