

NORTH STAR BLUESCOPE STEEL LLC**Material Specification**

Process Area: Melt Shop LMF	Number: AL 19.10
Material: Ferroboron (FeB)	Effective Date: 7/28/04
Authorized By: John Ruf	Review Date: 7/28/05

1.0 Application:

Ladle addition for alloying purposes.

2.0 Chemical Analysis and Material Properties:

Element	Absolute min.	Preferred min.	Preferred max.	Absolute max.
Boron	17.0%			19.0%
Silicon				3.0%
Carbon				1.5%
Phosphorous				0.03%
Sulfur				0.03%

3.0 Packaging:

3.0 Super Sacks – **must be shrunk wrapped for outside storage when packaged this way**

3.1 The North Star BlueScope Steel Raw Material Number must appear on all shipping and billing paperwork.

4.0 Sizing:

4.1 1in. By ¼in. (no fines)

5.0 Certification and Control:

5.1 Each lot received to include statements of conformity and certification. These documents must be handed in at the scales and include:

- 1) Certification for Boron, Silicon, Carbon, and Phosphorous.
- 2) Quantity
- 3) Name of material
- 4) Lot number

5.2 All chemical constituents not expressed but are contained in the subject material may not exceed 0.5% (except for Al) collectively. Any material lot exceeding 0.5% must have prior approval by purchasing before shipment is made and analysis included on certification.

5.3 Material is subject to inspection at North Star BlueScope Steel to test adherence to specification.

5.4 All material supplied to this specification must be equivalent in all respects to the material on which approval was originally granted.

6.0 Relevant Industry Standards (e.g. ASTM): N/A

7.0 Hazardous Material:

7.1 If this material is hazardous or requires special handling or storage, this information must be clearly labeled on containers and shipping documents. MSDS Sheets must also be sent to purchasing manager for new materials.

8.0 Attachments/Reference Documents: N/A

Rev #	Date	Description of Change(s)	Reason for Change:
1.	5/21/98	Changed footer and added revision level	To comply with QP
2.	10/1/98	Widened specs, Added elements to certify	Comply with new procedures
3.	3/8/99	Widened Phosphorous to .03% from .01%	Open bidding to more competitors
4.	4/5/99	Pallet description added to section 3.0 Packaging	Ease of handling
		Changed to B contained packages.	Open Bidding to more competitors
5.	12/22/99	Under 3.0, added that NSBHP Raw Material Number must be on all shipping and billing paperwork	For clarification purposes
6.	12/20/00	B to 17% to 19% and added supersacks to facilitate addition via alloy system.	
7.	1/4/02	Reviewed and re-authorized	Annual review
8.	1/8/03	Reviewed and re-authorized	Annual review
9.	1/14/04	Reviewed and re-authorized	Annual review
10.	7/28/2004	Changed packaging requirements to shrink wrap	To further protect from moisture outside