ALLOY STEEL AISI 8620 HOT-ROLLED ROUND AND FORGING QUALITY MATERIAL

1. SCOPE

This specification defines the requirements for Hot-Rolled Steel Bar conforming to AISI chemistry specifications and ASTM A29 dimensional tolerances.

2. APPLICATION

This specification includes material requirements, ordering information and quality requirements to be used by Engineering, Purchasing and Manufacturing.

3. DRAWING SPECIFICATIONS

3.1 New Holland Only:

H.R. Round AISI 8620

3.2 Versatile Only:

Material Code 211 - Hot Rolled Round 8620
Material Code 785 - Forging Material 8620

4. RELATED SPECIFICATIONS

4.1 REFERENCE STANDARDS

ASTM A29 - Standard Specifications for Steel Bar, Carbon and Alloy, Hot Wrought and Cold Finished, General Requirements.
ASTM A322 - Standard Specification for Steel Bars, Alloy, Standard Grades
86050124(FNHA-2-A-027.00).- General Requirements for Carbon and Alloy Steel Bars, Hot Rolled and Cold Finished.

4.2 This standard replaces the following company standards:

Versatile	MS - 623.
Versatile	MS - 629.

5. ORDERING INFORMATION

5.1 AISI 8620 Steel

5.2 Hot Rolled Bar, Standard Quality.

5.3 Dimensions (size, bar length, and whether cut length or random length).

5.4 Condition: Hot-rolled.

5.5 Grain size, if required.

6. CHEMICAL COMPOSITION FOR AISI 8620 STEEL

Chemistry:	8620
Carbon,%	0.18 to 0.23
Manganese,%	0.70 to 0.90
Phosphorus,%	0.035 max.
Sulfur,%	0.040 max.
Silicon,%	0.15 to 0.35
Nickel,%	0.40 to 0.70
Chromium,%	0.40 to 0.60
Molybdenum,%	0.15 to 0.25

7. DIMENSIONAL TOLERANCES

7.1 Size tolerances for Hot-Rolled Rounds - see Table 1.

7.2 Length tolerance for cut lengths + 2" / - 0, unless otherwise specified by part number drawing.

ALL	E	TH	112623	9-98
ALL	D	RLF	110229	JUL 97
ALL	C	RLF	107053	951019
ALL	B	RE	104739	950123
FRAME NO.	REV	BY	ECN NO.	DATE
APP.	DRAWN		TH	5-98
KHH JAN 95	CHECKED			

NAME: STD 8620 HR RD

NEW HOLLAND

ENGINEERING SPECIFICATION

FRAME 1 OF 2

PART NUMBER 9842928

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7.3 Straightness tolerances for Hot-Rolled Rounds - see Table 2.

8. MECHANICAL PROPERTIES

Hot-Rolled Properties: 8620

Tensile Strength, psi, typical	89 000
Yield Strength, psi, typical	65 000
Elongation in 2", typical %	25
Reduction in Area, typical %	63
Rockwell B Hardness, typical	90
Brinnell Hardness, typical	192

TABLE 1. Size Tolerance for Alloy H.R. Rounds

Size,inches	Permissible Variation in Cross Section, Over and Under, inches	
	Over	Under
To 5/16, incl.	0.005	0.005
Over 5/16 to 7/16, incl.	0.006	0.006
Over 7/16 to 5/8, incl.	0.007	0.007
Over 5/8 to 7/8, incl.	0.008	0.008
Over 7/8 to 1, incl.	0.009	0.009
Over 1 to 1 1/8, incl.	0.010	0.010
Over 1 1/8 to 1 1/4, incl.	0.011	0.011
Over 1 1/4 to 1 3/8, incl.	0.012	0.012
Over 1 3/8 to 1 1/2, incl.	0.014	0.014
Over 1 1/2 to 2, incl.	1/64	1/64
Over 2 to 2 1/2, incl.	1/32	0
Over 2 1/2 to 3 1/2, incl.	3/64	0
Over 3 1/2 to 4 1/2, incl.	1/16	0
Over 4 1/2 to 5 1/2, incl.	5/64	0
Over 5 1/2 to 6 1/2, incl.	1/8	0
Over 6 1/2 to 8 1/4, incl.	5/32	0
Over 8 1/4 to 9 1/2, incl.	3/16	0
Over 9 1/2 to 10, incl.	1/4	0

TABLE 2. Straightness Tolerance for Hot-Rolled Alloy Bars

Standard Tolerance	1/4 inch in any 5 foot length
Special Tolerance	1/8 inch in any 5 foot length

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