JOHN DEERE

John Deere Standard

APPROVED FOR SUPPLIER DISTRIBUTION

JDM A4

Specification for Steel Sheet and Strip

Table of Contents

List of Tables

1 Scope

1.1 JDM A4 applies to commercial quality, drawing quality, structural quality, and high strength low alloy steel sheets and strips in coils and cut lengths; to commercial and drawing quality coated steel sheets in coils and cut lengths; and to commercial and drawing quality heavy thickness steel sheet and strip coils.

1.2 JDM A4 specifies chemical composition, mechanical properties, and general requirements that apply to the steel grades designated and described in Table 1.

1.3 JDM A4 also specifies dimensional tolerances and other general requirements that apply to hot-rolled sheets and strips and cold-rolled sheets of carbon steel grades specified by JDM A0 and of high strength low alloy steel grades specified by JDM A13.

2 Methods of Specification for Steel Sheet and Strip

2.1 Specification on Part Drawings

Steel sheet and strip may be specified on part drawings in one of five ways:

- JDM A4 designations
- JDM A0 designations
- JDM A13 designations
- JDM A33 designations
- Direct reference to international, national, industry, or John Deere unit standards

The preferred method for part drawings is to specify grades of steel sheet and strip using JDM A4, JDM A0, JDM A13, and JDM A33 designations. This method provides a common language across John Deere units and allows maximum capability for worldwide purchasing and manufacturing.

2.1.1 JDM A4 Designations

Steel sheet and strip may be specified using the JDM A4 grade designations shown in Table 1. The standard number is embedded in the JDM A4 grade designation. Steel specified by JDM A4 grade shall conform to the chemical composition and mechanical property requirements of one or more of the applicable standards listed in Table 2 through Table 27 for the specified JDM A4 grade and to general requirements according to JDM A4, Clause 4.1.

Examples: JDM A4-1
JDM A4-2S
JDM A4-3SK

2.1.2 JDM A0 Designations

Steel sheet and strip may be specified to chemical composition using JDM A0 grade designations. Steel sheet and strip specified by JDM A0 grade shall conform to the chemical composition and quality level requirements for the specified grade according to JDM A0 and to general requirements according to JDM A4, Clause 4.1.

Examples: JDM A0 1015 HR QL-2
JDM A0 1020 CR QL-2

2.1.3 JDM A13 Designations

Steel sheet and strip may be specified to chemical composition and mechanical property requirements using JDM A13 grade designations. The standard number is embedded in the JDM A13 steel grade designation. Steel sheet and strip specified by JDM A13 grade shall conform to the chemical composition and mechanical property requirements for the specified grade according to JDM A13 and to general requirements according to JDM A4, Clause 4.1.

Examples: JDM A13C HR
JDM A13R CR

2.1.4 JDM A33 Designations

Steel sheet and strip may be specified using JDM A33 designations when it is desirable not to designate a specific steel grade defined by standard chemical composition or mechanical properties requirements. JDM A33 does not apply for procurement of steel. It is used to communicate design requirements of the part. The part manufacturer is responsible for selecting, specifying, and procuring a specific steel grade or grades that satisfy the design requirements.

Examples: JDM A33Y200
JDM A33Y400

2.1.5 International, National, Industry, or John Deere Unit Standards

If a part requires a particular grade of steel sheet or strip that cannot be specified by JDM A4, JDM A0, JDM A13, or JDM A33 designations, the steel may be specified by direct reference to appropriate international, national, industry, or John Deere unit standards.

2.2 Specification on Purchase Orders

Steel sheets and strips may be specified on purchase orders using any of the methods for specifying steel sheet and strip on part drawings, except for JDM A33, which is not intended as a purchasing specification. It may be beneficial on purchase orders to specify steel sheet and strip by reference to the international, national, or industry standards most applicable to the geographical location where the steel is purchased.

2.2.1 Steel Purchased to JDM Specifications or John Deere Unit Standards

When steel sheet or strip is purchased to JDM specifications or to John Deere unit standards, the steel shall conform to the requirements of the applicable John Deere standards. When steel sheet or strip is purchased to JDM A4 designations, the steel shall conform to the requirements of one or more of the applicable standards listed in Table 2 through Table 27 for the specified JDM A4 grade.

2.2.2 Steel Purchased to International, National, or Industry Standards

When steel sheet or strip is purchased to international, national, or industry standards, the steel shall conform to the requirements of the applicable standards for the specified grade and type of steel.

3 Designations and Material Descriptions

3.1 JDM A4 Grade Designations and Material Descriptions

Table 1 shows JDM A4 grade designations and corresponding material descriptions. These descriptions are intended to assist in the selection of a steel grade appropriate to the application; they are not specification requirements. For example, different standards may use different terms (such as "drawing quality" and "deep drawing quality") to describe the steel with equivalent characteristics, or the same term (such as "drawing quality") to describe steel with different characteristics. For purposes of Table 1, grades with suffix "L" are described as "lock-forming quality", with suffix "S" as "drawing quality", and with suffix "SK" as "drawing quality, special killed". Specification requirements for JDM A4 steel grades are shown in Table 2 through Table 27.

Table 1 JDM A4 Grade Designations and Material Descriptions

JDM Grade	Material Description
A4-1	Hot-rolled carbon steel sheet or strip, commercial quality
A4-1Y50	Hot-rolled structural steel sheet or strip, yield strength ≥340 MPa
A4-2	Hot-rolled carbon steel sheet or strip, commercial quality, descaled, oiled
A4-2P	Hot-rolled carbon steel sheet or strip, commercial quality, descaled, pre-painted
A4-2S	Hot-rolled carbon steel sheet or strip, drawing quality, descaled, oiled
A4-2SK	Hot-rolled carbon steel sheet or strip, drawing quality, special killed, descaled, oiled
A4-2Y50	Hot-rolled structural steel sheet or strip, descaled, oiled, yield strength ≥340 MPa
A4-3	Cold-rolled carbon steel sheet or strip, commercial quality, exposed surface, matte finish, oiled
A4-3P	Cold-rolled carbon steel sheet or strip, commercial quality, exposed surface, matte finish, not oiled, pre-painted
A4-3S	Cold-rolled carbon steel sheet or strip, drawing quality, exposed surface, matte finish, oiled
A4-3SK	Cold-rolled carbon steel sheet or strip, drawing quality, special killed, exposed surface, matte finish, oiled
A4-6	Zinc-coated carbon steel sheet or strip, commercial quality, normal spangle, passivated, oiled
A4-6L	Zinc-coated carbon steel sheet or strip, lock-forming quality, normal spangle, passivated, oiled
A4-6S	Zinc-coated carbon steel sheet or strip, drawing quality, normal spangle, passivated, oiled
A4-6SK	Zinc-coated carbon steel sheet or strip, drawing quality, special killed, normal spangle, passivated, oiled
A4-7	Zinc-coated carbon steel sheet or strip, commercial quality, minimized spangle, extra smooth surface, phosphated
A4-7L	Zinc-coated carbon steel sheet or strip, lock-forming quality, minimized spangle, extra smooth surface, phosphated
A4-7S	Zinc-coated carbon steel sheet or strip, drawing quality, minimized spangle, extra smooth surface, phosphated
A4-7SK	Zinc-coated carbon steel sheet or strip, drawing quality, special killed, minimized spangle, extra smooth surface, phosphated
A4-8	Zinc-iron alloy coated carbon steel sheet or strip, commercial quality, minimized spangle, extra smooth surface, oiled
A4-9	Cold-rolled aluminum-silicon coated carbon steel sheet or strip, commercial quality, oiled
A4-9S	Cold-rolled aluminum-silicon coated carbon steel sheet or strip, drawing quality, oiled
A4-9SK	Cold-rolled aluminum-silicon coated carbon steel sheet or strip, drawing quality, special killed, oiled
A4-11	Cold-rolled lead alloy coated carbon steel sheet or strip, commercial quality, oiled
A4-11S	Cold-rolled lead alloy coated carbon steel sheet or strip, drawing quality, oiled
A4-11SK	Cold-rolled lead alloy coated carbon steel sheet or strip, drawing quality, special killed, oiled

3.2 JDM A4 Designations and Applicable Standards, Material Grades, and Descriptions

3.2.1 Applicable Standards, Material Grades, and Descriptions

3.2.1.1 JDM A4 designations and applicable material grades and descriptions per ISO, ASTM, EN, and JIS standards are shown in Table 2 through Table 27. Steel specified by JDM A4 grade shall conform to the requirements of one or more of the applicable standards (including material grade and description) listed in the table for the specified JDM A4 grade.

Note 1 In the ASTM system for designating standards, the letter "M" follows the numerical designation to indicate that SI units of measurement apply. When both inch-pound and SI units are used as separate requirements within the same standard, ASTM dual-designates the standard using the format "Axxxx/AxxxxM". Sometimes the grade designations differ between the inch-pound and SI versions; sometimes the grade designations are the same for both versions. Inch-pound and SI versions of ASTM standards are listed separately in Table 2 through Table 27, even when there is a single dual-designated standard. This is to make clear the applicable ASTM grade designation and to ensure that the correct standard for dimensional tolerances is used.

Note 2 EN standards use both numeric and symbolic steel grade designation systems, which may be used interchangeably. Both types of EN steel grade designations are included in Table 2 through Table 27.

3.2.1.2 The inclusion of a material grade in Table 2 through Table 27 indicates that the grade meets the requirements of the corresponding JDM A4 designation, not that it is equivalent in all respects to other grades that also meet the requirements of the corresponding JDM A4 designation.

3.2.2 Potential Grade Substitutions

Steel produced to other standards and material grades may be substituted for the grades specified in Table 2 through Table 27 if the supplier provides satisfactory evidence of material equivalency and receives approval from the John Deere design control unit. A compilation of potential grade substitutions is shown in JDM A4X2 (currently under development). Inclusion of a steel grade in JDM A4X2 does not necessarily mean that the grade will conform to the requirements of the specified JDM A4 grade, only that it is a candidate for further investigation.

Note 3 Steel grades shown as meeting the requirements of JDM A4 grades in Table 2 through Table 27 are also shown in JDM A4X2.

Table 2 JDM A4-1 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3573	HR1	Hot-rolled carbon steel sheet, commercial quality
	HR2	
ISO 6317	HR1	Hot-rolled carbon steel strip, commercial quality
	HR2	
ASTM A1011 ASTM A1011M	CS Type B	Hot-rolled carbon steel sheet or strip, commercial steel • Previous grade designations were ASTM A569/A569M, Type B and Type A.
	CS Type A	
ASTM A635 ASTM A635M	1009	Hot-rolled carbon steel sheet or strip coils, commercial quality
	1006	
	1008	
	1010	
	1012	
EN 10111	DD11 1.0332	Hot-rolled low carbon steel sheet or strip for cold forming
	DD12 1.0398	
JIS G3131	SPHC	Hot-rolled carbon steel sheet or strip, commercial quality
JIS G3131 Annex	HR1	Hot-rolled carbon steel sheet, commercial quality • Grades in JIS G3131 Annex are the same as in ISO 3573.
	HR2	
• **JDM A4-2, A4-2S, or A4-2SK may be substituted for JDM A4-1.**		

Table 3 JDM A4-1Y50 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 4995	HR355 Class B	Hot-rolled structural steel sheet, upper yield stress ≥355 MPa or lower yield stress ≥335 MPa
	HR355 Class D	
ISO 6316	HR355 Class B	Hot-rolled structural steel strip, upper yield stress ≥355 MPa or lower yield stress ≥335 MPa
	HR355 Class D	
ASTM A1011	SS Grade 50	Hot-rolled carbon steel sheet or strip, structural steel, yield point ≥345 MPa • Previous grade designation was ASTM A570/A570M, Grade 50.
ASTM A1011M	SS Grade 345	
EN 10025	S355J0 1.0553	Hot-rolled structural steel flat product, yield strength ≥355 MPa
	S355J2G3 1.0570	
	S355J2G4 1.0577	
	S355J2K3 1.0595	
	S355J2K4 1.0596	
JIS G3134	SPFH 540	Hot-rolled high strength steel sheet with improved formability for automobile structural uses, yield strength ≥355 MPa • Previous grade designation was SPFH 55.
• **JDM A4-2Y50 may be substituted for JDM A4-1Y50.** • **JDM A13C or A13R may be substituted for JDM A4-1Y50.**		

Table 4 JDM A4-2 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3573	HR1	Hot-rolled carbon steel sheet, commercial quality, descaled, oiled
	HR2	
ISO 6317	HR1	Hot-rolled carbon steel strip, commercial quality, descaled, oiled
	HR2	
ASTM A1011 ASTM A1011M	CS Type B	Hot-rolled carbon steel sheet or strip, commercial steel, descaled, oiled • Previous grade designations were ASTM A569/A569M, Type B and Type A.
	CS Type A	
ASTM A635 ASTM A635M	1009	Hot-rolled carbon steel sheet or strip coils, commercial quality, descaled, oiled
	1006	
	1008	
	1010	
	1012	
EN 10111	DD11 1.0332	Hot-rolled low carbon steel sheet or strip for cold forming, descaled, oiled
	DD12 1.0332	
JIS G3131	SPHC	Hot-rolled carbon steel sheet or strip, commercial quality, descaled, oiled
JIS G3131 Annex	HR1	Hot-rolled carbon steel sheet, commercial quality, descaled, oiled • Grades in JIS G3131 Annex are the same as in ISO 3573.
	HR2	
• **JDM A4-2S or A4-2SK may be substituted for JDM A4-2.**		

Table 5 JDM A4-2P — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
JDM A4	A4-2P	JDM A4-1, descaled, not oiled, pre-painted per JDH 410
		JDM A4-2, not oiled, pre-painted per JDH 410

Table 6 JDM A4-2S — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3573	HR3	Hot-rolled carbon steel sheet, deep drawing quality, descaled, oiled
ISO 6317	HR3	Hot-rolled carbon steel strip, deep drawing quality, descaled, oiled
ASTM A1011 ASTM A1011M	DS Type B	Hot-rolled carbon steel sheet or strip, drawing steel, descaled, oiled
	DS Type A	• Previous grade designations were ASTM A621/A621M, Type B and Type A.
ASTM A635 ASTM A635M	DQ	Hot-rolled carbon steel sheet or strip coils, drawing quality (DQ), descaled, oiled
EN 10111	DD13 1.0335	Hot-rolled low carbon steel sheet or strip for cold forming, descaled, oiled
	DD14 1.0389	
JIS G3131	SPHD	Hot-rolled carbon steel sheet or strip, drawing quality, descaled, oiled
JIS G3131 Annex	HR3	Hot-rolled carbon steel sheet or strip, deep drawing quality, descaled, oiled • Grades in JIS G3131 Annex are the same as in ISO 3573.
• **JDM A4-2SK may be substituted for JDM A4-2S.**		

Table 7 JDM A4-2SK — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3573	HR4	Hot-rolled carbon steel sheet, deep drawing quality, special killed, descaled, oiled
ISO 6317	HR4	Hot-rolled carbon steel strip, deep drawing quality, special killed, descaled, oiled
ASTM A1011 ASTM A1011M	DS Type B	Hot-rolled carbon steel sheet or strip, drawing steel, descaled, oiled • Previous grade designations were ASTM A622/A622M, Type B and Type A.
	DS Type A	
ASTM A635 ASTM A635M	DQSK	Hot-rolled carbon steel sheet or strip coils, drawing quality special killed (DQSK), descaled, oiled
EN 10111	DD13 1.0335	Hot-rolled low carbon steel sheet or strip for cold forming, descaled, oiled
	DD14 1.0389	
JIS G3131	SPHE	Hot-rolled carbon steel sheet or strip, deep drawing quality, descaled, oiled
JIS G3131 Annex	HR4	Hot-rolled carbon steel sheet, deep drawing quality, special killed, descaled, oiled • Grades in JIS G3131 Annex are the same as in ISO 3573.

Table 8 JDM A4-2Y50 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 4995	HR355 Class B	Hot-rolled structural steel sheet, descaled, oiled, upper yield stress ≥355 MPa or lower yield stress ≥335 MPa
	HR355 Class D	
ISO 6316	HR355 Class B	Hot-rolled structural steel strip, descaled, oiled, upper yield stress ≥355 MPa or lower yield stress ≥335 MPa
	HR355 Class D	
ASTM A1011	SS Grade 50	Hot-rolled carbon steel sheet or strip, structural steel, descaled, oiled, yield point ≥345 MPa
ASTM A1011M	SS Grade 345	• Previous grade designation was ASTM A570/A570M, Grade 50.
EN 10025	S355J0 1.0553	Hot-rolled structural steel flat product, descaled, oiled, yield strength ≥355 MPa
	S355J2G3 1.0553	
	S355J2G4 1.0553	
	S355J2K3 1.0553	
	S355J2K4 1.0553	
JIS G3134	SPFH 540	Hot-rolled high strength steel sheet with improved formability for automobile structural uses, descaled, oiled, yield strength ≥355 MPa • Previous grade designation was SPFH 55.
• **JDM A13C or A13R may be substituted for JDM A4-2Y50.**		

Table 9 JDM A4-3 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3574	CR1	Cold-reduced carbon steel sheet, commercial quality, exposed surface, matte finish, oiled
	CR2	
ISO 6932	CR21	Cold-reduced carbon steel strip, commercial quality, exposed surface, matte finish, oiled
	CR22	
ASTM A1008 ASTM A1008M	CS Type B	Cold-rolled low carbon steel sheet, commercial steel, exposed surface, matte finish, oiled • Previous grade designations were ASTM A366/A366M, Type B and Type A.
	CS Type A	
EN 10130	DC01-B-m 1.0330-B-m	Cold-rolled, low carbon steel flat product, surface quality "B", surface finish "m" (normal), oiled
EN 10139	DC01+LC-MB-RM 1.0330+LC-MB-RM	Cold-rolled mild steel narrow strip for cold forming, delivery condition "LC", surface appearance "MB", surface finish "RM", oiled
JIS G3141	SPCC-S-D	Cold-reduced carbon steel sheet or strip, commercial quality, standard temper grade, matte finish, oiled
JIS G3141 Annex	CR1	Cold-reduced carbon steel sheet , commercial quality, exposed surface, matte finish, oiled • Grades in JIS G3141 Annex are the same as in ISO 3573.
	CR2	
• **JDM A4-3S or A4-3SK may be substituted for JDM A4-3.**		

Table 10 JDM A4-3P — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
JDM A4	A4-3P	JDM A4-3, not oiled, pre-painted per JDH 410

Table 11 JDM A4-3S — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3574	CR3	Cold-reduced carbon steel sheet, deep drawing quality, exposed surface, matte finish, oiled
ISO 6932	CR23	Cold-reduced carbon steel strip, deep drawing quality, exposed surface, matte finish, oiled
ASTM A1008 ASTM A1008M	DS Type B	Cold-rolled carbon steel sheet, drawing steel, exposed surface, matte finish, oiled • Previous grade designations were ASTM A619/A619M, Type B and Type A.
	DS Type A	
EN 10130	DC03-B-m 1.0347-B-m	Cold-rolled, low carbon steel flat product, surface quality "B", surface finish "m" (normal), oiled
EN 10139	DC03+LC-MB-RM 1.0347+LC-MB-RM	Cold-rolled mild steel narrow strip for cold forming, delivery condition "LC", surface appearance "MB", surface finish "RM", oiled
JIS G3141	SPCD-S-D	Cold-reduced carbon steel sheet or strip, drawing quality, standard temper grade, matte finish, oiled
JIS G3141 Annex	CR3	Cold-reduced carbon steel sheet, deep drawing quality, exposed surface, matte finish, oiled • Grades in JIS G3141 Annex are the same as in ISO 3573.
• **JDM A4-3SK may be substituted for JDM A4-3S.**		

Table 12 JDM A4-3SK — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3574	CR4	Cold-reduced carbon steel sheet, deep drawing quality, special killed, exposed surface, matte finish, oiled
ISO 6932	CR24	Cold-reduced carbon steel strip, deep drawing quality, special killed, exposed surface, matte finish, oiled
ASTM A1008 ASTM A1008M	DS Type B	Cold-rolled carbon steel sheet, drawing steel, exposed surface, matte finish, oiled • Previous grade designations were ASTM A620/A620M, Type B and Type A.
	DS Type A	
	DDS	
EN 10130	DC04-B-m 1.0338-B-m	Cold-rolled, low carbon steel flat product, surface quality "B", surface finish "m" (normal), oiled
	DC05-B-m 1.0312-B-m	
EN 10139	DC04+LC-MB-RM 1.0338+LC-MB-RM	Cold-rolled mild steel narrow strip for cold forming, delivery condition "LC", surface appearance "MB", surface finish "RM", oiled
	DC05+LC-MB-RM 1.0312+LC-MB-RM	
JIS G3141	SPCEN-S-D	Cold-reduced carbon steel sheet or strip, drawing quality, standard temper grade, matte finish, oiled
JIS G3141 Annex	CR3	Cold-reduced carbon steel sheet, deep drawing quality, special killed, exposed surface, matte finish, oiled • Grades in JIS G3141 Annex are the same as in ISO 3573

Table 13 JDM A4-6 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z275N01	Zinc-coated carbon steel sheet, commercial quality, normal coating, mill passivated, oiled
ASTM A653	CS Type B G90	Zinc-coated (galvanized) carbon steel sheet, commercial steel, chemically treated, oiled
	CS Type A G90	
ASTM A653M	CS Type B Z275	Zinc-coated (galvanized) carbon steel sheet, commercial steel, chemically treated, oiled
	CS Type A Z275	
EN 10142	DX51D+Z275-N-A-CO 1.0226+Z275-N-A-CO	Zinc-coated, low carbon steel sheet and strip for cold forming, bending and profiling quality, normal spangle, as-coated surface, chemically passivated, oiled
JIS G3302	SGCC-RCO-Z27	Cold-rolled zinc-coated steel sheet, commercial quality, normal spangle, chromate treated, oiled
	SGHC-RCO-Z27	Hot-rolled zinc-coated steel sheet, commercial quality, normal spangle, chromate treated, oiled
JIS G3302 Annex 4	Z275N01	Zinc-coated carbon steel sheet, commercial quality, normal coating, mill passivated, oiled • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
• **JDM A4-6L, A4-6S, or A4-6SK may be substituted for JDM A4-6.**		

Table 14 JDM A4-6L — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z275N02	Zinc-coated carbon steel sheet, lock-forming quality, normal coating, mill passivated, oiled
	Z275N03	
	Z275N04	
	Z275N05	
	Z275M02	
	Z275M03	
	Z275M04	
	Z275M05	
JIS G3302	SGCD1-RCO-Z27	Cold-rolled zinc-coated steel sheet, drawing quality class 1, normal spangle, chromate treated, oiled
	SGCD2-RCO-Z27	
	SGCD3-RCO-Z27	
JIS G3302 Annex 4	Z275N02	Zinc-coated carbon steel sheet, lock-forming quality, normal coating, mill passivated, oiled • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
	Z275N03	
	Z275N04	
	Z275N05	
	Z275M02	
	Z275M03	
	Z275M04	
	Z275M05	
• **JDM A4-6S, or A4-6SK may be substituted for JDM A4-6L.**		

Table 15 JDM A4-6S — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z180N04	Zinc-coated carbon steel sheet, deep drawing quality, normal coating, mill passivated, oiled
	Z180M04	
ASTM A653	FS Type B G60	Zinc-coated (galvanized) steel sheet, forming steel, chemically treated, oiled
	FS Type A G60	
ASTM A653M	FS Type B Z180	Zinc-coated (galvanized) steel sheet, forming steel, chemically treated, oiled
	FS Type A Z180	
EN 10142	DX52D+Z200-N-A-CO 1.0350+Z200-N-A-CO	Zinc-coated, low carbon steel sheet and strip for cold forming, drawing quality, normal spangle, as-coated surface, chemically passivated, oiled
JIS G3302	SGCD2-RCO-Z18	Cold-rolled zinc-coated steel sheet, drawing quality class 2, normal spangle, chromate treated, oiled
JIS G3302 Annex 4	Z180N04	Zinc-coated carbon steel sheet, commercial quality, normal coating, mill passivated, oiled • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
	Z180M04	
• **JDM A4-6SK may be substituted for JDM A4-6S.**		

Table 16 JDM A4-6SK — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z180N05	Zinc-coated carbon steel sheet, deep drawing quality, special killed, normal coating, mill passivated, oiled
	Z180M05	
ASTM A653	DDS G60	Zinc-coated (galvanized) steel sheet, deep drawing steel, chemically treated, oiled
ASTM A653M	DDS Z180	Zinc-coated (galvanized) steel sheet, deep drawing steel, chemically treated, oiled
	EDDS Z180	
EN 10142	DX53D+Z200-N-A-CO 1.0355+Z200-N-A-CO	Zinc-coated, low carbon steel sheet and strip for cold forming, deep drawing quality, normal spangle, as-coated surface, chemically passivated, oiled
JIS G3302	SGCD3-RCO-Z18	Cold-rolled zinc-coated steel sheet, drawing quality class 3, normal spangle, chromate treated, oiled
JIS G3302 Annex 4	Z180N05	Zinc-coated carbon steel sheet, commercial quality, normal coating, mill passivated, oiled • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
	Z180M05	

Table 17 JDM A4-7 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z180E01	Zinc-coated carbon steel sheet, commercial quality, minimized spangle, extra smooth, mill phosphated
ASTM A653	CS Type B G60	Zinc-coated (galvanized) steel sheet, commercial steel (CS), minimized spangle, extra smooth, phosphatized
	CS Type A G60	
ASTM A653M	CS Type B Z180	Zinc-coated (galvanized) steel sheet, commercial steel (CS), minimized spangle, extra smooth, phosphatized
	CS Type A Z180	
EN 10142	DX51D+Z200-M-C-CO 1.0226+Z200-M-C-CO	Zinc-coated, low carbon steel sheet and strip for cold forming, bending and profiling quality, minimized spangle, best surface quality, chemically passivated, oiled
JIS G3302	SGCC-ZSPO-Z18	Cold-rolled zinc-coated steel sheet, commercial quality, minimized spangle, skin pass surface, phosphate treated, oiled
JIS G3302 Annex 4	Z180E01	Zinc-coated carbon steel sheet, commercial quality, minimized spangle, extra smooth, mill phosphated • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
• **JDM A4-7L, A4-7S, or A4-7SK may be substituted for JDM A4-7.**		

Table 18 JDM A4-7L — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z180E02	Zinc-coated carbon steel sheet, lock-forming quality, minimized spangle, extra smooth, mill phosphated
	Z180E03	
JIS G3302	SGCD1-ZSPO-Z18	Cold-rolled zinc-coated steel sheet, drawing quality class 1, minimized spangle, skin pass surface, phosphate treated, oiled
JIS G3302 Annex 4	Z180E02	Zinc-coated carbon steel sheet, commercial quality, normal coating, mill passivated, oiled • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
	Z180E03	
• **JDM A4-7S, or A4-7SK may be substituted for JDM A4-7L.**		

Table 19 JDM A4-7S — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z180E04	Zinc-coated carbon steel sheet, deep drawing quality, minimized spangle, extra smooth, mill phosphated
ASTM A653	FS Type B G60	Zinc-coated (galvanized) steel sheet, forming steel (FS), minimized spangle, extra smooth, phosphatized
	FS Type A G60	
ASTM A653M	FS Type B Z180	Zinc-coated (galvanized) steel sheet, forming steel (FS), minimized spangle, extra smooth, phosphatized
	FS Type A Z180	
EN 10142	DX52D+Z200-M-C-CO 1.0350+Z200-M-C-CO	Zinc-coated, low carbon steel sheet and strip for cold forming, drawing quality, minimized spangle, best surface quality, chemically passivated, oiled
JIS G3302	SGCD2-ZSPO-Z18	Cold-rolled zinc-coated steel sheet, drawing quality class 2, minimized spangle, skin pass surface, phosphate treated, oiled
JIS G3302 Annex 4	Z180E04	Zinc-coated carbon steel sheet, deep drawing quality, minimized spangle, extra smooth, mill phosphated • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
• **JDM A4-7SK may be substituted for JDM A4-7S.**		

Table 20 JDM A4-7SK — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	Z180E05	Zinc-coated carbon steel sheet, deep drawing quality, minimized spangle, extra smooth, mill phosphated
ASTM A653	DDS G60	Zinc-coated (galvanized) steel sheet, deep drawing steel (DDS), minimized spangle, extra smooth, phosphatized
	EDDS G60	
ASTM A653M	DDS Z180	Zinc-coated (galvanized) steel sheet, deep drawing steel (DDS), minimized spangle, extra smooth, phosphatized
	EDDS Z180	
EN 10142	DX53D+Z200-M-C-CO 1.0355+Z200-M-C-CO	Zinc-coated, low carbon steel sheet and strip for cold forming, deep drawing quality, minimized spangle, best surface quality, chemically passivated, oiled
JIS G3302	SGCD3-ZSPO-Z18	Cold-rolled zinc-coated steel sheet, drawing quality class 3, minimized spangle, skin pass surface, phosphate treated, oiled
JIS G3302 Annex 4	Z180E05	Zinc-coated carbon steel sheet, deep drawing quality, minimized spangle, extra smooth, mill phosphated • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.

Table 21 JDM A4-8 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 3575	ZF180E01	Zinc-iron alloy coated carbon steel sheet, commercial quality, minimized spangle, extra smooth, oiled
	ZF180E02	
	ZF180E03	
	ZF180E04	
	ZF180E05	
ASTM A653	CS Type B A60	Zinc-iron alloy coated (galvannealed) steel sheet, commercial steel (CS), extra smooth, oiled
	CS Type A A60	
	FS A60	
	DDS A60	
ASTM A653M	CS Type B ZF180	Zinc-iron alloy coated (galvannealed) steel sheet, commercial steel (CS), extra smooth, oiled
	CS Type A ZF180	
	FS ZF180	
	DDS ZF180	
EN 10142	DX51D+ZF140-N-B-O 1.0226+ZF140-N-B-O	Zinc-iron alloy coated low carbon steel sheet and strip for cold forming, bending and profiling quality, regular coating, improved surface quality, oiled
	DX52D+ZF140-N-B-O 1.0350+ZF140-N-B-O	
	DX53D+ZF140-N-B-O 1.0355+ZF140-N-B-O	
JIS G3302	SGCC-RSO-F18	Cold-rolled zinc-iron alloy coated steel sheet, commercial quality, normal spangle, skin pass surface, oiled
	SGCD1-RSO-F18	
	SGCD2-RSO-F18	
	SGCD3-RSO-F18	
JIS G3302 Annex 4	ZF180E01	Zinc-iron alloy coated carbon steel sheet, commercial quality, minimized spangle, extra smooth, oiled • Grades in JIS G3302 Annex 4 are the same as in ISO 3575.
	ZF180E02	
	ZF180E03	
	ZF180E04	
	ZF180E05	

Table 22 JDM A4-9 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 5000	AS120S01	Cold-reduced aluminum-silicon coated carbon steel sheet, commercial quality, oiled
	AS120S02	
ASTM A463	CS Type B T1-40	Aluminum-coated steel sheet, commercial steel (CS), Type 1 (T1)
ASTM A463M	CS Type B T1-120	Aluminum-coated steel sheet, commercial steel (CS), Type 1 (T1)
EN 10154	DX51D+AS120-N-O 1.0226+AS120-N-O	Aluminum-silicon coated steel sheet or strip, bending and profiling quality, as-coated surface, oiled
JIS G3314	SA1C40	Aluminum-coated steel sheet, commercial quality
• **JDM A4-9S or A4-9SK may be substituted for JDM A4-9.**		

Table 23 JDM A4-9S — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 5000	AS120S03	Cold-reduced aluminum-silicon coated carbon steel sheet, deep drawing quality, oiled
ASTM A463	FS T1-40	Aluminum-coated steel sheet, forming steel (FS), Type 1 (T1)
ASTM A463M	FS T1-120	Aluminum-coated steel sheet, forming steel (FS), Type 1 (T1)
EN 10154	DX52D+AS120-N-O 1.0350+AS120-N-O	Aluminum-silicon coated steel sheet or strip, drawing quality, as-coated surface, oiled
JIS G3314	SA1D40	Aluminum-coated steel sheet, drawing quality
• **JDM A4-9SK may be substituted for JDM A4-9S.**		

Table 24 JDM A4-9SK — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 5000	AS120S04	Cold-reduced aluminum-silicon coated carbon steel sheet, deep drawing quality, special killed, oiled
ASTM A463	DDS T1-40	Aluminum-coated steel sheet, deep drawing steel (DDS), Type 1 (T1)
	EDDS T1-40	
ASTM A463M	DDS T1-120	Aluminum-coated steel sheet, deep drawing steel (DDS), Type 1 (T1)
	EDDS T1-120	
EN 10154	DX53D+AS120-N-O 1.0355+AS120-N-O	Aluminum-silicon coated steel sheet or strip, deep drawing quality, as-coated surface, oiled
JIS G3314	SA1E40	Aluminum-coated steel sheet, deep drawing quality

Table 25 JDM A4-11 — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 4999	T0075N01	Cold-reduced terne (lead-alloy) coated carbon steel sheet, commercial quality, oiled
	T0075N02	
ASTM A308	CS Type B LT25	Terne (lead-tin alloy) coated steel sheet, commercial steel, oiled
	CS Type A LT25	
• **JDM A4-11S or A4-11SK may be substituted for JDM A4-11.**		

Table 26 JDM A4-11S — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 4999	T0075N03	Cold-reduced, terne (lead-alloy) coated carbon steel sheet, deep drawing quality, oiled
ASTM A308	DDS LT25	Terne (lead-tin alloy) coated steel sheet, deep drawing steel, oiled
• **JDM A4-11SK may be substituted for JDM A4-11S.**		

Table 27 JDM A4-11SK — Applicable Standards, Material Grades, and Descriptions

Applicable Standard	Material Grade	Material Description
ISO 4999	T0075N04	Cold-reduced terne (lead-alloy) coated carbon steel sheet, deep drawing quality, aluminum killed, oiled
	T0075N05	
ASTM A308	DDS LT25	Terne (lead-tin alloy) coated steel sheet, deep drawing steel (DDS), oiled
	EDDS LT25	

4 Specification Requirements for Steel Sheet and Strip

4.1 Steel Sheet and Strip Ordered to JDM Specifications or John Deere Unit Standards

Unless otherwise specified by the purchaser, the standard provisions of the latest relevant ASTM standards shall apply for all points not taken up in JDM A4 or the applicable John Deere unit standard. Supplementary and special requirements, if any, shall be as specified by the purchaser.

4.1.1 Chemical Composition, Mechanical Properties, and Coatings

Chemical composition, mechanical properties, and coatings shall conform to the requirements specified in the applicable John Deere standard for the specified steel grade.

4.1.2 Dimensional Tolerances and Other General Requirements

Unless otherwise specified by the purchaser, steel sheet and strip shall be supplied in conformance to the dimensional tolerances and other general requirements published in the latest issue of the applicable standards for the grades, products, and sizes of steel shown in JDM A4X1. Dimensional tolerances and any other general requirements for steel grades, products, or sizes not shown in JDM A4X1 shall be as specified by the purchaser.

4.2 Steel Sheet and Strip Ordered to International, National, or Industry Standards

Unless otherwise specified, the standard provisions of the latest relevant ASTM standards shall apply for all points not taken up in the applicable international, national, or industry standard. Supplementary and special requirements, if any, shall be as specified by the purchaser.

4.2.1 Chemical Composition, Mechanical Properties, and Coatings

Chemical composition, mechanical properties, and coatings shall conform to the requirements specified in the applicable international, national, or industry standard for the specified steel grade.

4.2.2 Dimensional Tolerances and Other General Requirements

Unless otherwise specified by the purchaser, steel sheet and strip shall be supplied in conformance to the dimensional tolerances and other general requirements for the grades, products, and sizes of steel defined by the latest issue of the applicable international, national, or industry standards. Dimensional tolerances and any other general requirements for steel grades, products, or sizes not shown in these standards shall be as specified by the purchaser. JDM A4X1 identifies applicable ISO, ASTM, EN, and JIS standards for dimensional tolerances and general requirements of steel flat products.

5 Shipping Memoranda

Shipping memoranda shall include, at a minimum, the following information:

- Purchase order number
- Quantity
- Size and description
- Applicable standards
- Grade of steel
- Heat number
- Cast or heat (formerly ladle) analysis
- Mechanical property test data (for grades with mechanical property requirements)

6 Purchasing Information

The designation and description used for ordering determines the standards that apply. Purchase orders should include all information necessary to describe the requirements.

6.1 Purchase Orders to JDM Specifications or John Deere Unit Standards

Orders for material purchased to this specification shall include the following information as needed to describe the requirements:

- Quantity
- Size
  - Thickness (minimum or nominal)
  - Width
  - Length (if cut lengths) or coil size requirements (maximum outside diameter, acceptable inside diameter, and maximum mass per coil)
- JDM A4, JDM A0, or JDM A13 designation and description (or John Deere unit standard designation and description)
- Any requirements in addition to or different from those specified in JDM A4, Clause 4, such as:
  - Edge type: Mill edge or cut edge (for hot-rolled sheets and strips)
  - Surface condition and finish (for cold-rolled sheets)
  - Condition: Oiled or descaled and oiled (for hot-rolled sheets and strips) or not oiled
  - Spangle: Normal or minimized (for galvanized sheets)
  - Part numbers for which the steel is intended (for all JDM A4 grades with L, S, SK, or Y50 suffixes and for all JDM A13 grades ordered as sheet or strip). The purchaser shall provide part drawings to the supplier, and the supplier shall be liable for breakage in fabrication that exceeds limits established by agreement between the purchaser and supplier.

6.2 Purchase Orders to International, National, or Industry Standards

Orders for material purchased to international, national, or industry standards shall include the information specified by the applicable standards.

7 References

7.1 ASTM Standards

ASTM A308	Specification for Steel Sheet, Terne (Lead-Tin Alloy) Coated by the Hot-Dip Process
ASTM A463/A463M	Specification for Steel Sheet, Aluminum-Coated by the Hot-Dip Process
ASTM A635/A635M	Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Carbon, Hot-Rolled
ASTM A653/A653M	Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A1008/A1008M	Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
ASTM A1011/A1011M	Specification for Steel, Sheet, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability

7.2 EN Standards

EN 10025	Hot rolled products of non-alloy structural steels — Technical delivery conditions
EN 10111	Continuously hot-rolled low carbon steel sheet and strip for cold forming
EN 10130	Cold-rolled low-carbon steel flat products for cold forming — Technical delivery conditions
EN 10139	Cold rolled uncoated mild steel narrow strip for cold forming — Technical delivery conditions
EN 10142	Continuously hot-dip zinc coated low carbon steel sheet and strip for cold forming — Technical delivery conditions
EN 10154	Continuously hot-dip aluminum-silicon (AS) coated steel sheet and strip — Technical delivery conditions

7.3 ISO Standards

ISO 3573	Hot-rolled carbon steel sheet of commercial and drawing qualities
ISO 3574	Cold-reduced carbon steel sheet of commercial and drawing qualities
ISO 3575	Continuous hot-dip zinc-coated carbon steel sheet of commercial, lock-forming, and drawing qualities
ISO 4995	Hot-rolled steel sheet of structural quality
ISO 4999	Continuous hot-dip terne (lead alloy) coated cold-reduced carbon steel sheet of commercial, drawing and structural qualities
ISO 5000	Continuous hot-dip aluminum/silicon-coated cold-reduced carbon steel sheet of commercial and drawing qualities
ISO 6316	Hot-rolled steel strip of structural quality
ISO 6317	Hot-rolled carbon steel strip of commercial and drawing qualities
ISO 6932	Cold-reduced carbon steel strip with a maximum carbon content of 0.25 %

7.4 JDM Standards

JDM A0	Specification for JDM Carbon, Alloy, and Stainless Steels
JDM A4X1	Normative Annex X1: Applicable Standards for Dimensional Tolerances and General Requirements for Steel Sheet and Strip Specified by JDM A0, JDM A4, JDM A13, or John Deere Unit Standards
JDM A4X2	Informative Annex X2: Worldwide Summary of Potential Grade Substitutions for Steels Specified by JDM A4 Grade Designations [currently under development]
JDM A13	Specification for High Strength Steels
JDM A33	Specification for General Purpose Structural and Heat Treating Steels

7.5 JIS Standards

JIS G3131	Hot-rolled mild steel plates, sheets, and strip
JIS G3141	Cold-reduced carbon steel sheets and strip
JIS G3302	Hot-dip zinc-coated steel sheets and coils
JIS G3314	Hot-dip aluminum-coated steel sheets and coils