



Material Specifications

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IH TO CASE MATERIAL SPECIFICATIONS CONVERSION GUIDE

The following list is primarily for Engineering use and is intended to acquaint users with the Case MS documents that replace former IH material specifications. The guide shows Engineering how a former IH materials designation should now be called out on drawings using the Case MS system. Please consult with a Materials Engineer if you need assistance in the use of these Case MS documents on engineering drawings.

Other users of this guide, such as Case Manufacturing Engineering, Planning, and Purchasing need to recognize that it is not an all-inclusive list of permissible materials for parts whose drawings carry an IH materials designation. Some materials allowed by former IH specifications are not currently part of any Case MS document and consequently are not shown in this conversion list. Users involved with IH materials designations should refer to the former IH materials specifications to determine all of the materials permitted by such a designation.

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A-0 Part I Steels

Carbon Steels	MS 323, MS 352, MS 353
Merchant Quality Carbon Steels	MS 322, MS 330, MS 351
Free Machining Carbon Steels	MS 352, MS 353
Carbon - Manganese Steels	MS 353
Carbon - Boron Steels	MS 356
Alloy Steels	MS 450

A-0 Part II Steel Codes

Code 0-100, 0-100N, 0-100W	MS 436
Code 0-115, 0-115N	MS 352, 1117 or 12L14; MS 353, 1213
Code 0-200, 0-201	MS 351, M1020; MS 352, 1015, 1018, 1020, 1117; MS 353, 1022, 1025
Code 0-202	MS 351, M1020; MS 352, 1015, 1018, 1020, 1117
Code 0-202C	MS 352, 1015, 1018, 1020; MS 353, 1022 Except Fully Killed Fine Grain Steel Required
Code 0-202W	MS 351, M1020; MS 352, 1015, 1018, 1020; MS 353, 1022
Code 0-202CW	MS 352, 1015, 1018, 1020; MS 353, 1022 Except Fully Killed Fine Grain Steel Required
Code 0-203C	MS 352, 1018; MS 353, 1022 Except Fully Killed Fine Grain Steel Required
Code 0-300	MS 352, 1018, 1117; MS 353, 1022, 1025 1030, 1035
Code 0-300W	MS 352, 1018; MS 353, 1022, 1025, 1030, 1035
Code 0-400	MS 351, M1044; MS 352, 1137; MS 353, 1038 1040, 1043, 1045, 1141
Code 0-400W	MS 353, 1038, 1040, 1043, 1045
Code 0-500	MS 352, 1137; MS 353, 1043, 1045, 1050 1141
Code 2-115	MS 381, 1213 or 12L14
Code 2-200	MS 381, 1018 or 1117
Code 2-202, 2-202W	MS 381, 1018
Code 2-300	MS 381, 1018 or 1117
Code 2-300W	MS 381, 1018
Code 2-400	MS 381, 1137 or 1141; MS 382, 1045, 1141 or 1541

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A-0 Part II Steel Codes (Continued)

Code 2-400W	MS 382, 1045
Code 2-410	MS 381, 1137 or 1141; MS 382, 1045, 1141 or 1541
Code 2-415	MS 381, 1137, 1141 or 1144; MS 382, 1141
Code 2-421	MS 381, 1137, 1141, 1144-Opt. 17 for all; MS 382, 1045, 1141-Opt. 17 for both
Code 2-422	MS 395, 1045, 1141, 1144

A-0 Part III Steel Codes Codes for Heat Treated Steels

Contact Materials Engineer for
Conversion to Individual Materials Designations

A-2 Cold Finished Steels

Cold Drawn Carbon Steels	MS 381, MS 382, MS 383
T&P, TG&P Carbon Steels	MS 385, MS 386
Cold Drawn Alloy Steels	MS 456
1144SS	MS 396
4145SS	MS 457

A-6 Part I Carbon Steel Flats & Structural

Grade 1	MS 435, MS 436, MS 437
Grade 1C	MS 435, MS 438
Grade 2	MS 320, 1017
Grade 3	MS 351, M1020; MS 320, 1020
Grade 4B	MS 335
Grade 5	MS 329

A-6 Part II Carbon Steels Sheet & Strip

Grades: 1A, 1GALV (Type A and G), 1D, 1T	MS442, Equivalent Grades
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A-8 Steel Wire

Bright Basic Wire	MS 470, Grade B
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A-9 Steel Spring Wire

Spring Wire Types

MS 471, Equivalent Types

A-10 Part I ERW Steel Tubing

1010, Grades H-F, H-10, H-5,
C-F, C-10, C-5

MS 403

Hydraulic Cylinder Tubing,
Grade DOM

MS 410

1020, 1026 Grade DOM

MS 406

Grade EBS

MS 407

A-10 Part II Butt Welded Steel Tubing

1010, Grade MD

MS 405

A-10 Part III Seamless Steel Tubing

1018, 1026, 1045 Grade HF

MS 402

1018, 1026, 1035 Grade CD

MS 404

A-16 Disk Steel

Class I

MS 339, Grade I

Class II

MS 339, Grade II

A-18 Steel Pipe

Grade 1

MS 415 Pipe ASTM A53 Type F

Grade 3

MS 415 Pipe ASTM A53 Grade B

Grade 4

MS 416

A-31 Part I Bolts and Studs

Type 1

ES-B7002

Type 5

ES-B7005

Type 8

ES-B7008

A-31 Part II Nuts

Type 5

ES-B7020

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A-38 Structural Steel Tubing

Grade XBW
Grade CHS
Grade RPA
Grade RPS

MS 417
MS 418; MS 420 Grade B
MS 422, Grade RPA
MS 422, Grade RPS

A-39 Shot Peening

All Classes

MS 1820, Equivalent Classes

A-40 Case Hardening

All Classes

Contact Materials Engineer for
Conversion to Callouts per Case P-2,
P-3, or P-10

A-41 Flame and Induction Hardening

All Classes

Contact Materials Engineer for
Conversion to Callouts per Case P-1

A-43 High Strength Low Alloy Steels

Type 42X
Type 50X
Type 50A
Type 50R
Type 50F
Type 60X
Type 65X
Type 80F

MS 314, Grade 42
MS 314, Grade 50, MS 303
MS 309, Type 50A
MS 309, Type 50R
MS 314, Grade 50 Option 44
MS 314, Grade 60
MS 337
MS 315

A-44 Heat Treated Constructural Steels

Type 90
Type 100
Type 321WR
Type 363WR

MS 317, Grade 90C
MS 317, Grades 100A, 100B, 100C
MS 324, Grade 320
MS 324, Grade 360

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A-45 Part I Automotive Steel Tubing

Grade 1	MS 428, Grade T
Grade 1 ST	MS 428, Grade S
Grade 3	MS 428, Grade P
Grade 6	MS 426

A-45 Part II Hydraulic Line Tubing

Grade NF	MS 429, Grade NF
Grade F	MS 429, Grade F
Grade S	MS 429, Grade S

A-52 Grinding Alterations

All Classes	MS 1821, Equivalent Classes
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B-1 Ethylene Glycol Base Single Phase Antifreeze	MS 1710
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B-6 Combination Hydraulic Transmission Fluid	MS 1207
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B-31 Diesel Fuel, Ashless Type	MS 1067, Grade SCI
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B-32 Diesel Fuel

Grade 1	MS 1067, Grade 1-D
Grade 2	MS 1067, Grade 2-D

C-3 Wrought Copper Alloys

CDA 110 Sheet & Strip	MS 705
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C-8 Aluminum Alloy Castings

A380.0 Die Casting	MS 728, Grade 308
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C-10 Wrought Aluminum

All Grades	MS 727, Equivalent Grades
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D-15 Part II O Ring Materials

Class 3	MS 566, Class 3
Class 3A	MS 566, Class 3A
Class 5	MS 566, Class 5
Class 6	MS 566, Class 6
Class 7	MS 566, Class 7
Class 8	MS 566, Class 8

D-16 Hydraulic Oil Hose

All Classes	ES-B120, Equivalent Classes
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D-18 Gasketing Materials

Grade 10	MS 530, Grade 10
Grade 11	MS 530, Grade 11
Grade 12	MS 530, Grade 12
Grade 20	MS 530, Grade 20NA
Grade 30	MS 530, Grade 30NA

D-21 Nylon Molding and Extrusion Compounds

All Designations	Contact Materials Engineer for conversion to designations per Case MS 516 or Case MS 517
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D-28 Plastic Parts

All Designations	MS 516, Equivalent Designations
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D-29 Plastic Molding Compounds

All Designations	MS 517, Equivalent Designations
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D-30 Coolant Hose

All Types and Classes	MS 551, Equivalent Types and Classes
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E-2 Steel Castings

Grade SC-1	MS 620, Grade 350
Grade SC-2R	MS 621
Grade SC-3	MS 620, Grade 450
Grade SC-3A	MS 620, Grade 700

E-6 Gray Iron Castings

All Grades	MS 601, Equivalent Grades
Engine Block and Head Gray Irons	MS 602
Centrifugally Cast Gray Iron	
Cylinder Liners	MS 605
Statically Cast Gray Iron	
Cylinder Liners	MS 607

E-7 Malleable Iron Castings

Grade M4504	MS 610, Grade 4504
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E-10 Nodular Iron Castings

Grade 4318	MS 612, Grade 4018
Grade 4512	MS 612, Grade 4512
Grade 5006	MS 612, Grade 5506
Grade 6503	MS 612, Grade 7003
Grade Q&T	MS 612, Grade 1000

G-1 Phosphate Coatings

Class A-1	MS 90-1, Coarse
Class B-1	MS 91-1

G-5 Paint

Black Paint, High Gloss	MS 45, Black, except 60° Gloss shall be 70-80, Enamel
Black Paint, Medium Gloss	MS 45, Black, 35-45 Gloss, Enamel
Black Paint, Low Gloss	MS 45, Black, except 60° Gloss shall be 15-25, Enamel
Black Acid Resistant Paint	Contact Materials Engineering.
Black Heat Resistant Paint	MS 16, Black, Heat Resistant Enamel
Red Paint	MS 3, Case Red Enamel
Silver Paint	MS 19, Case Silver Enamel
Tan Paint	MS 42, Tan, 80-90 Gloss, Enamel
Brown Paint	Contact Materials Engineering.

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G-6 Decalcomania

Type 1A	MS 251-1
Type 1B	MS 251-2
Type 2	MS 251-3 and -4

G-7 Product Graphics

Types 1 and 1A	MS 252-1 through -6
Type 1B	MS 252-7
Type 1S	MS 262-10, -14 and -16
Heat Resistant Vinyl Films	MS 252-91 through -94
Types 2 and 2B	MS 254-3 and -4, Surface Printed
Type 2A	MS 254-3 and -4, Subsurface Printed
Type 3	MS 254-1, -2 and -5
Type 4	MS 256-1 and -2
Type 5	MS 252-81 through -84
Type 7S	MS 262-20
Type 8S	MS 262-22
Type 9	MS 258-1 through -6
Type 10	MS 255-1 through -4

G-15 Plastic Coatings

Fluorocarbon Coating	MS 61
Epoxy Coating	MS 62

G-18 Cadmium Plating

All Classes	MS 206, Equivalent Classes
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G-19 Part II Chromium Plating

Class DS	MS 210, Type I
Class ES	MS 210, Type IA
Class FS	MS 210, Type IB

G-20 Zinc Plating

All Classes	MS 201, Equivalent Classes
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K-5 Brazing

Brazing	MS 1830
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K-11 Arc Welding

Commercial Quality Arc Welds

ES-B201, ES-B211 (Supersede MS 1831)

K-12 Multiple Pass Welding

Multiple Pass Welding Sequence

ES-B211 (Supersedes MS 1832)

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