

Mild Steel General Machining & Fabrication

DEK Reference ID:									
DSM 1.1.1_Bright									
Material Name EN:									
1.1151									
Steel Group:									
Non alloy special steels: Steels with special physical properties and Structural, pressure vessel and engineering steels with average < 0,50 % C									
Characteristics:									
Bright - fine-grain treated, rimming steel not permitted (FN), suitable for quenching and tempering									
Chemical Composition (subset C, Si, Mn, Cr, Ni):									
C (%) - Min	C (%) - Max	Si (%) - Min	Si(%) - Max	Mn (%) - Min	Mn(%) - Max	Cr (%) - Min	Cr (%) - Max	Ni (%) - Min	Ni(%) - Max
0.17	0.24	-	0.40	0.40	0.70	-	0.40	-	0.40
Properties:									
Density (g/cm3)	Young's modulus (GPA)	Yield Stress YS Min MPa	Yield Stress YS Max MPa	Tensile Strength TS Min MPa	Tensile Strength TS Max MPa	Elongation A (%)			
7.860	200	340	-	500	650	20			
Material Safety Data Sheet:									
 Material Safety Data Sheet For Carb									
Approved Standards For Bright Steel:									
Material Number	Country	Steel Name	Product			Standard's Name		Edition	
1.1151	EU	C22E	bar and flat product			DIN EN ISO 683-1		2018	
1.1151	EU	C22E	cold rolled strip			DIN EN 10132-3		2000	
1.1151	EU	C22E	tube, seamless			DIN EN 10297-1		2003	
1.1151	ISO	CE 20 E4	cold heading steel			ISO 4954		2018	
1.1151	ISO	S20C	flat product, hot rolled			ISO 10384		2012	
1.1151	CN	20	steel, quality steel, general			GB/T 699		2015	
1.1151	CN	20	sheet and strip, hot rolled			GB/T 711		2017	
1.1151	CN	20	bar, cold drawn			GB/T 3078		2019	
1.1151	CN	20	tube, seamless, cold drawn			GB/T 3094		2012	
1.1151	CN	20	plate, hot rolled			GB/T 3274		2017	
1.1151	CN	20	strip, cold rolled			GB/T 3522		1983	
1.1151	CN	20	tube, cold drawn or cold rolled			GB/T 3639		2009	
1.1151	CN	CZ350	tube, electric welded			YB/T 5209		2010	
1.1151	CN	20	wire			YB/T 5303		2010	
1.1151	CN	20G	tube, seamless			GB/T 5310		2017	
1.1151	CN	20R	plate for pressure vessel			GB 713		2008	
1.1151	CN	20	tube, seamless			GB/T 8162		2018	

Issue	01	02	03	04	05	06	07		
Date	7135	30040	44682	44869	N/A	N/A	24/06/21		

Approved Standards For Bright Steel:					
Material Number	Country	Steel Name	Product	Standard's Name	Edition
1.1151	CN	20	tube, seamless	GB/T 8163	2018
1.1151	CN	20	strip, hot rolled	GB/T 8749	2008
1.1151	CN	20	tube, seamless	GB 9948	2013
1.1151	CN	20	sheet and strip, cold rolled	GB/T 13237	2013
1.1151	CN	20	strip, cold rolled, for chains	YB/T 5347	2016
1.1151	CN	20	forging	GB/T 17107	1997
1.1151	CN	20	tube, seamless, hot rolled	GB/T 17396	2009
1.1151	JP	S20C	steel, carbon steel	JIS G 4051	2016
1.1151	JP	S20CK	Steel, carbon steel	JIS G 4051	2016
1.1151	JP	S22C	steel, carbon steel	JIS G 4051	2016
1.1151	US	Grade 1020	bar, hot-wrought	ASTM A29/ M	2020
1.1151	US	Grade M1020	bar, hot-wrought	ASTM A29/ M	2020
1.1151	US	Grade 1020	tube, butt welded	ASTM A512	2018
1.1151	US	Grade MT1020	tube, butt welded	ASTM A512	2018
1.1151	US	Grade 1020	tube, electric resistance welded	ASTM A513/ M	2020
1.1151	US	Grade MT1020	tube, seamless	ASTM A519/ M	2017
1.1151	US	Grade 1020	tube, seamless	ASTM A519/ M	2017
1.1151	US	Grade 1020	sheet, rolled	ASTM A568/ M	2019
1.1151	US	Grade M1020	bar, merchant quality	ASTM A575	2020
1.1151	US	Grade 1020	bar, hot-wrought	ASTM A576	2017
1.1151	US	Grade 1020	sheet and strip, hot rolled	ASTM A635/ M	2015
1.1151	US	Grade 1020	sheet and strip, hot rolled	ASTM A659/ M	2018
1.1151	US	Grade 1020	forging	ASTM A711/ M	2017
1.1151	US	Grade MT1020	tube, electric resistance welded	ASTM A787/ M	2020
1.1151	US	Grade 1020	sheet, cold rolled	ASTM A794/ M	2018
1.1151	US	Grade 1020	plate	ASTM A827/ M	2014
1.1151	US	Grade 1020	plate, structural quality	ASTM A830/ M	2018
1.1151	US	Grade 1020	wire rod, wrought steel	ASTM A1040	2017
1.1151	US	Grade M1020	wire rod, wrought steel	ASTM A1040	2017
1.1151	US	SAE 1020	carbon steel, general	SAE J 403	2014
1.1191	JP	S45C	steel, carbon steel	JIS G 4051	2016
1.1206	JP	S50C	steel, carbon steel	JIS G 4051	2016

Issue	01	02	03	04	05	06	07		
Date	7135	30040	44682	44869	N/A	N/A	24/06/21		

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DEK Reference ID:									
DSM 1.1.1_Sheet									
Material Name EN:									
1.0330									
Steel Group:									
Non alloy quality steels: Steels with average C < 0,12 % or Rm < 400 MPa									
Characteristics:									
Sheet - deoxidation optional, cold rolled, suitable for cold forming, weldable, drawing quality, surface refinement (+ZE,+ZN)									
Chemical Composition (subset C, Si, Mn, Cr, Ni):									
C (%) - Min	C (%) - Max	Si (%) - Min	Si(%) - Max	Mn (%) - Min	Mn(%) - Max	Cr (%) - Min	Cr (%) - Max	Ni (%) - Min	Ni(%) - Max
0	0.12	-	0.5	-	0.6	-	-	-	-
Properties:									
Density (g/cm3)	Young's modulus (GPA)	Yield Stress YS Min MPa @ 0.8mm wall	Yield Stress YS Max MPa	Tensile Strength TS Min MPa	Tensile Strength TS Max MPa	Elongation A (%)			
7.850	208	140	280	270	410	28			
Material Safety Data Sheet:									
 Material Safety Data Sheet For Carb									
Approved Standards For Sheet Steel:									
Material Number	Country	Steel Name	Product			Standard's Name		Edition	
1.0330	EU	DC01	strip and sheet, cold rolled			DIN EN 10130		2007	
1.0330	EU	DC01	cold rolled strip			DIN EN 10139		2020	
1.0330	EU	DC01	flat product, cold rolled			DIN EN 10152		2017	
1.0330	ISO	CR1	sheet, cold reduced			ISO 3574		2012	
1.0330	ISO	CR22	cold strip in widths up to 600 mm			ISO 6932		2014	
1.0330	CN	DC01	sheet and strip, cold rolled			GB/T 5213		2019	
1.0330	JP	SPCC	sheet and strip, cold rolled			JIS G 3141		2017	
1.0330	JP	SPHD	plate / sheet and strip, hot rolled			JIS G 3131		2018	
1.0330	JP	SPHC	plate / sheet and strip, hot rolled			JIS G 3131		2018	
1.0330	US	Grade 1008	bar, hot-wrought			ASTM A29/ M		2020	
1.0330	US	Grade M1008	bar, hot-wrought			ASTM A29/ M		2020	
1.0330	US	Grade 1008	tube, butt welded			ASTM A512		2018	
1.0330	US	Grade 1008	tube, electric resistance welded			ASTM A513/ M		2020	
1.0330	US	Grade 1008	tube, seamless			ASTM A519/ M		2017	
1.0330	US	Grade 1008	sheet, rolled			ASTM A568/ M		2019	
1.0330	US	Grade 1008	sheet, rolled			ASTM A568/ M		2019	

Issue	01	02	03	04	05	06	07		
Date	7135	30040	44682	44869	N/A	N/A	24/06/21		

Approved Standards For Sheet Steel:					
Material Number	Country	Steel Name	Product	Standard's Name	Edition
1.0330	US	Grade M1008	bar, merchant quality	ASTM A575	2020
1.0330	US	Grade 1008	bar, hot-wrought	ASTM A576	2017
1.0330	US	Grade 1008	sheet and strip, hot rolled	ASTM A635/ M	2015
1.0330	US	Grade 1008	tube, electric resistance welded	ASTM A787/ M	2020
1.0330	US	Grade 1008	plate, structural quality	ASTM A830/ M	2018
1.0330	US	CS type A	sheet, cold rolled	ASTM A1008/ M	2020
1.0330	US	CS type B	sheet, cold rolled	ASTM A1008/ M	2020
1.0330	US	CS type C	sheet, cold rolled	ASTM A1008/ M	2020
1.0330	US	CS type A	sheet and strip, hot rolled	ASTM A1011/ M	2018
1.0330	US	CS type B	sheet and strip, hot rolled	ASTM A1011/ M	2018
1.0330	US	CS type C	sheet and strip, hot rolled	ASTM A1011/ M	2018
1.0330	US	CS type A	sheet and strip, hot rolled	ASTM A1018/ M	2018
1.0330	US	CS type B	sheet and strip, hot rolled	ASTM A1018/ M	2018
1.0330	US	Grade 1008	wire rod, wrought steel	ASTM A1040	2017
1.0330	US	Grade M1008	wire rod, wrought steel	ASTM A1040	2017

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DEK Reference ID:									
DSM 1.1.1_Black									
Material Name EN:									
1.0715									
Steel Group:									
Non alloy quality steels: Steels with higher P or S content									
Characteristics:									
Black Steel - Machinable,									
Chemical Composition (subset C, Si, Mn, Cr, Ni):									
C (%) - Min	C (%) - Max	Si (%) - Min	Si(%) - Max	Mn (%) - Min	Mn(%) - Max	Cr (%) - Min	Cr (%) - Max	Ni (%) - Min	Ni(%) - Max
0	0.14	0	0.05	0.9	1.3	-	-	-	-
Properties:									
Density (g/cm3)		Young's modulus (GPA)	Yield Stress YS Min MPa	Yield Stress YS Max MPa	Tensile Strength TS Min MPA		Tensile Strength TS Max MPA		Elongation A (%)
7.85		210	-	-	380		570		-
Material Safety Data Sheet:									
 Material Safety Data Sheet For Carb									
Approved Standards For Black Steel:									
Material Number	Country	Steel Name	Product			Standard's Name		Edition	
1.0715	EU	11SMn30	free-cutting steel			DIN EN 10087		1999	
1.0715	EU	11SMn30	free-cutting steel			DIN EN 10277		2018	
1.0715	ISO	11SMn30	free-cutting steel			ISO 683-4		2016	
1.0715	ISO	11SMn30	bright product			ISO 683-18		2014	
1.0715	CN	Y15	free-cutting steel			GB/T 8731		2008	
1.0715	JP	SUM22	free-cutting steel			JIS G 4804		2017	
1.0715	JP	SUM23	free-cutting steel			JIS G 4804		2017	
1.0715	US	Grade 1213	bar, hot-wrought			ASTM A29/M		2020	
1.0715	US	Grade 1213	bar, cold finished			ASTM A108		2018	
1.0715	US	Grade 1213	tube, seamless			ASTM A519/M		2017	
1.0715	US	Grade 1213	bar, hot-wrought			ASTM A576		2017	
1.0715	US	Grade 1213	wire rod, wrought steel			ASTM A1040		2017	
1.0715	US	SAE 1213	carbon steel, general			SAE J 403		2014	

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