



Hot rolled concrete reinforcing stretched coils

Sales office:

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Revision 04/2021



GRADE B500B

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Revision 04/2021

CHEMICAL COMPOSITION

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)					
			C	P	S	Cu	N	CEV
United Kingdom	BS 4449:2005	GRADE B 500 B	0.22	0.050	0.050	0.80	0.012	0.50

$$\text{With: CEV} = C + \frac{\text{Mn}}{6} + \frac{\text{Cr} + \text{Mo} + \text{V}}{5} + \frac{\text{Ni} + \text{Cu}}{15}$$

MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	R _{e, nom} (MPa)			R _{m, nom} / R _{e, nom}		
			Value charact.	Value min.	Value max.	Value charact.	Value min.	Value max.
United Kingdom	BS 4449:2005	Grade B 500 B	500	485	650	1.08	1.06	-

R_{e, nom} Yield strength determined using nominal steel cross-section
 R_{m, nom} Tensile strength determined using nominal steel cross-section

Country	Standard/ Specification	Grade	A _{gt} (%)		A _{5d} (%)	
			Value charact.	Value min.	Value charact.	Value min.
United Kingdom	BS 4449:2005	Grade B 500 B	5.0	4.0	-	-

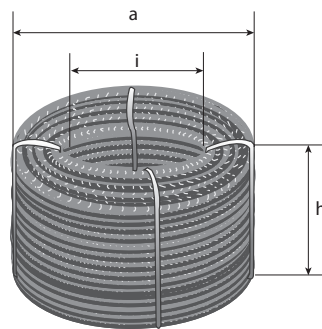
A_{gt} Total percent elongation under maximum force
 A_{5d} Percent elongation after rupture determined on specimen length between marks equal to 5.d

RANGE OF DIAMETERS

Country	Standard/ Specification	Grade	Nominal Diameter				
United Kingdom	BS 4449:2005	Grade B 500 B	8	10	12	14	16

PACKAGING			
Coil height h maxi	Inner diameter i mini	Outer diameter a maxi	Weight of standard coils in stock
800 mm	600 mm	900 mm	~ 1500 kg *
800 mm	600 mm	950 mm	~ 1800 kg
800 mm	600 mm	1050 mm	~ 2500 kg
800 mm	600 mm	1150 mm	~ 3000 kg

*On request



MARKING

SAM Montereau

0-32

ADDITIONAL INFORMATION

In our objective of circular economy and in accordance with the regulations, we ask our customers to inform the end users as well as the companies in charge of the demolition of structures, buildings and edifices, on the importance of waste sorting and more precisely that of the reinforcements present in the concrete. This shared vigilance contributes to the preservation of the environment as well as the reduction of carbon footprints linked to the extraction of raw materials that can be avoided by recycling and reuse.

CERTIFICATION

UNITED KINGDOM	SAM Montereau: BS 4449:1997 - Grade 460 B and BS 4449:2005 Grade B500B
QUALITY	SAM Montereau: Quality System Certificate - CARES
QUALITY / SAFETY / ENVIRONMENT	SAM Montereau: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001
QUALITY	PARSIDER RIVA Acier: Multi-site Quality System Certificate - AFAQ/AFNOR



RIVAFIL - KR - B500A

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Revision 04/2021

CHEMICAL COMPOSITION

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)					
			C	P	S	Cu	N	CEV
France	NF A 35-080-1	B 500 A	0,22	0,050	0,050	0,80	0,012	0,50
Germany	DIN 488	B 500 A	0,22	0,050	0,050	0,80	0,012	0,50

With: $CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Ni + Cu}{15}$

MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	R _{e, nom} (MPa)				(MPa)	
			Value charact.	Value Min.	Value charact.	Value Min.	Value charact.	Value Min.
France	NF A 35-080-1	B 500 A	500	650	475	675	-	-
Germany	DIN 488	B 500 A	500	-	-	-	-	-

Country	Standard/ Specification	Ø	Grade	R _{m, nom} / R _{e, nom}	
				Value charact.	Value Min.
France	NF A 35-080-1	5	B 500 A	1.03	1.01
France	NF A 35-080-1	5.5 to 12	B 500 A	1.05	1.03
Germany	DIN 488	6 to 10	B 500 A	1,05	1,05



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Country	Standard/ Specification	Grade	$R_{e,act} / R_{e,nom}$ max.	$R_{e,act} / R_{e,nom}$ min.
France	NF A 35-080-1	B 500 A	1.30	-
Germany	DIN 488	B 500 A	1,30	-

$R_{e,nom}$ Yield strength determined using nominal steel cross-section
 $R_{e,actual}$ Tensile strength determined using nominal cross-section of steel
 $R_{m,nom}$ Elongation after rupture determined on specimen on length between marks equal to 5.d
 $R_{m,actual}$ Elongation after rupture determined on specimen on length between marks equal to 10.d

Country	Standard/ Specification	Ø	Grade	A_{gt} (%)	
				Value charact.	Value Min.
France	NF A 35-080-1	5	-	2.0	1.6
France	NF A 35-080-1	5.5 to 12	B 500 A	2.5	2.0
Germany	DIN 488	6 to 10	B 500 A	2,5	-

A_{gt} Total percent elongation under maximum force
 A_{5d} Percent elongation after rupture determined on specimen length between marks equal to 5.d
 A_{10d} Percent elongation after rupture determined on specimen length between marks equal to 10.d

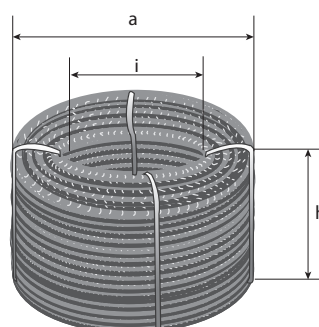
RANGE OF DIAMETERS

Country	Standard/ Specification	Grade	Nominal diameter							
France	NF A 35-080-1	B 500 A	5	5.5	6	7	8	9	10	12
Germany	DIN 488	B 500 A	-	-	6	7	8	9	10	-

PACKAGING

Coil height h maxi	Inner diameter i mini	Outer diameter a maxi	Weight of standard coils in stock
800 mm	600 mm	900 mm	~ 1500 kg *
800 mm	600 mm	950 mm	~ 1800 kg
800 mm	600 mm	1050 mm	~ 2500 kg
800 mm	600 mm	1150 mm	~ 3000 kg

*On request





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MARKING

SAM Neuves-Maisons	SAM Montereau
0-33 (0-354 Rivafil)	0-32

ADDITIONAL INFORMATION

Ability to straighten after bending: RIVAFIL hot-rolled steels, diameters 6 to 12 mm, have passed the tests and are capable of straightening after bending as per the AFCAB PE04 procedure. These steels are likely to be bent and straightened once, for example for pending use as reinforcements.

Weldability: RIVAFIL steels are suitable for commonly used welding processes.

Weldability is based essentially on compliance with specifications relating to chemical composition: $C_{eq} < 0.50\%$ on cast.

In our objective of circular economy and in accordance with the regulations, we ask our customers to inform the end users as well as the companies in charge of the demolition of structures, buildings and edifices, on the importance of waste sorting and more precisely that of the reinforcements present in the concrete. This shared vigilance contributes to the preservation of the environment as well as the reduction of carbon footprints linked to the extraction of raw materials that can be avoided by recycling and reuse.

CERTIFICATION

FRANCE	SAM Neuves Maisons: NF A 35-080-1 - B 500 A SAM Montereau: NF A 35-080-1 - B 500 A
GERMANY	SAM Neuves-Maisons: DIN 488 – B500A
QUALITY / SAFETY / ENVIRONMENT	SAM Montereau: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 SAM Neuves Maisons: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001



NERSAM 500SNP - B500B - BE 500 TS

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CHEMICAL COMPOSITION

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)				
			C	P	S	N	CEV
France	NF A 35-080-1	B500B	0.22	0.050	0.050	0.012	0.50
Belgium	NBN A 24-302	BE 500 TS	0.22	0.050	0.050	0.012	0.50
Germany	Z-1.2-275	B500B	0.22	0.050	0.050	0.012	0.50
Switzerland	SIA 262	B500B	0.22	0.050	0.050	0.012	0.50
Netherlands	NEN 6008	B500B	0.22	0.050	0.050	0.012	0.50

$$\text{With: CEV} = \text{C} + \frac{\text{Mn}}{6} + \frac{\text{Cr} + \text{Mo} + \text{V}}{5} + \frac{\text{Ni} + \text{Cu}}{15}$$

Cu max: 0.80

MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	R _{e, nom} (MPa)		R _{e, actual} (MPa)			
			Value charact.	Value min.	Value charact.	Value min.	Value charact.	Value min.
France	NF A 35-080-1	B500B	500	650	475	675	-	-
Belgium	NBN A 24-302	BE 500 TS	-	-	-	-	500	500
Germany	DIN 488	B500B	500	-	475	-	-	-
Switzerland	SIA 262	B500B	500	-	500	650	-	-
Netherlands	NEN 6008	B500B	500	-	485	-	-	-



NERSAM 500SNP - B500B - BE 500 TS

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Country	Standard/ Specification	Grade	$R_{m,nom}$ (MPa)		$R_{m,actual}$ (MPa)	
			Value charact.	Value min.	Value charact.	Value min.
France	NF A 35-080-1	B500B	-	-	-	-
Belgium	NBN A 24-302	BE 500 TS	-	-	-	550
Germany	Z-1.2-275	B500B	-	-	-	-
Switzerland	SIA 262	B500B	-	-	-	-
Netherlands	NEN 6008	B500B	-	-	-	-

Country	Standard/ Specification	Grade	$R_m / R_{e,nom}$			$R_m / R_{e,actual}$		
			Value charact. min.	Value charact. max.	Value min.	Value charact. min.	Value charact. max.	Value min.
France	NF A 35-080-1	B500B	1.08	-	1.06	-	-	-
Belgium	NBN A 24-302	BE 500 TS	-	-	-	-	1.08	1.08
Germany	Z-1.2-275	B500B	1.08	-	1.07	-	-	-
Switzerland	SIA 262	B500B	1.08	-	1.08	-	-	-
Netherlands	NEN 6008	B500B	1.08	-	1.06	-	-	-

Country	$R_{e,act} / R_{e,nom}$ max.	$R_{e,act} / R_{e,nom}$ min.
France	1.30	-
Germany	1.30	-
Switzerland	1.30	-

$R_{e,nom}$ Yield strength determined using nominal steel cross-section
 $R_{e,actual}$ Tensile strength determined using nominal cross-section of steel
 $R_{m,nom}$ Elongation after rupture determined on specimen on length between marks equal to 5.d
 $R_{m,actual}$ Elongation after rupture determined on specimen on length between marks equal to 10.d

Country	Standard/ Specification	Grade	A_{gt} (%)		A_{5d} (%)		A_{10d} (%)	
			Value charact.	Value min.	Value charact.	Value min.	Value charact.	Value min.
France	NF A 35-080-1	B500B	5.0	4.0	-	-	-	-
Belgium	NBN A 24-302	BE 500 TS	5.0	5.0	-	14.0	-	10.0
Germany	Z-1.2-275	B500B	5.0	4.1	-	-	-	-
Switzerland	SIA 262	B500B	5.0	-	-	-	-	-
Netherlands	NEN 6008	B500B	5.5	5.0	-	-	-	-

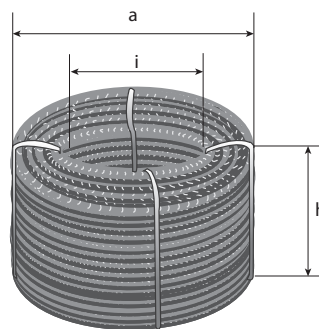
A_{gt} Total percent elongation under maximum force
 A_{5d} Percent elongation after rupture determined on specimen length between marks equal to 5.d
 A_{10d} Percent elongation after rupture determined on specimen length between marks equal to 10.d

RANGE OF DIAMETERS											
Country	Standard/ Specification	Grade	Nominal Diameter								
France	NF A 35-080-1	B500B	6	7	8	9	10	12	14	16	20
Belgium	NBN A 24-302	BE 500 TS	-	-	8	-	10	12	14	16	20
Germany	Z-1.2-275	B500B	-	-	8	-	10	12	14	16	20
Switzerland	SIA 262	B500B	-	-	8	-	10	12	14	16	20
Netherlands	NEN 6008	B500B	-	-	8	-	10	12	14	16	-

PACKAGING			
Coil height h maxi	Inner diameter i mini	Outer diameter a maxi	Weight of standard coils in stock
800 mm	600 mm	900 mm	~ 1500 kg *
800 mm	600 mm	950 mm	~ 1800 kg
800 mm	600 mm	1050 mm	~ 2500 kg
800 mm	600 mm	1150 mm	~ 3000 kg
1000 mm	600 mm	1250 mm	~ 5000 kg

*On request

PACKAGING - DIAMETER 20 mm			
Coil height h maxi	Inner diameter i mini	Outer diameter a maxi	Weight of standard coils in stock
~ 700 mm	~ 880 mm	~1340 mm	~ 3000 kg
~ 1000 mm	~ 880 mm	~1340 mm	~ 5000 kg





NERSAM 500SNP - B500B - BE 500 TS

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MARKING

SAM Neuves-Maisons	SAM Montereau
0-33	0-32

ADDITIONAL INFORMATION

Ability to straighten after bending: NERSAM hot-rolled steels have passed the tests and are capable of straightening after bending as per the AFCAB PE04 procedure. These steels can be bent and straightened once, for instance for pending use as reinforcements.

Weldability: NERSAM steels are suitable for commonly used welding processes. Weldability is essentially based on compliance with specifications relating to chemical composition: Ceq < 0.50% on cast.

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CERTIFICATION

FRANCE	SAM Neuves-Maisons Certificate - NF A 35-080-1 - B500B SAM Montereau Certificate - NF A 35-080-1 - B500B
BELGIUM	SAM Neuves-Maisons Certificate - NBN A 24-302 - BE 500 TS SAM Montereau Certificate - NBN A 24-302 - BE 500 TS
GERMANY	SAM Neuves-Maisons Certificate - DIN 488 - B500B
SWITZERLAND	SAM Neuves-Maisons Certificate - SIA 262 et 262/1 - B500B SAM Montereau Certificate - SIA 262 et 262/1 - B500B
NETHERLANDS	SAM Neuves-Maisons Certificate - NEN 6008 - B500B
QUALITY / SAFETY / ENVIRONMENT	SAM Montereau: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 SAM Neuves Maisons: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001
QUALITY	PARSIDER RIVA ACIER Certificate - Multi-site Quality System Certificate AFAQ/AFNOR