



# Hot rolled concrete reinforcing bars

**Sales office:**

Riva Acier - Z.I. de Limay-Porcheville - F-78440 Gargenville

**Tel:** +33 1.30.98.20.00 - **Fax:** +33 1.30.98.20.21

**Email:** [commercial.france@rivagroup.com](mailto:commercial.france@rivagroup.com)

Revision 04/2021



# Creloi 500S - B500B - BE500S

**Sales office:** Riva Acier - Z.I. de Limay-Porcheville - F-78440 Gargenville  
**Tel:** +33 1.30.98.20.00 - **Fax:** +33 1.30.98.20.21  
**Email:** commercial.france@rivagroup.com

Revision 04/2021

## CHEMICAL COMPOSITION ON CASTING

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)				
			C	P	S	N	CEV
France	NF A 35-080-1	B 500 B	0.22	0.050	0.050	0.012	0.50
Belgium	NBN A 24-302	BE 500 S	0.22	0.050	0.050	0.012	0.50
Germany	DIN 488	B 500 B	0.22	0.050	0.050	0.012	0.47 ( $\varnothing > 28\text{mm}$ ) 0.50 ( $\varnothing \leq 28\text{mm}$ )
Switzerland	SIA 262	B500B	0.22	0.050	0.050	0.012	0.50
Netherlands	NEN 6008	B 500 B	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	$R_{e, \text{nom}}$ (MPa)		$R_{e, \text{actual}}$ (MPa)	
			Value charact.	Value min.	Value charact.	Value min.
France	NF A 35-080-1	B 500 B	500	475	-	-
Belgium	NBN A 24-302	BE 500 S	-	-	500	500
Germany	DIN 488	B 500 B	500	500	-	-
Switzerland	SIA 262	B500B	500	500	-	-
Netherlands	NEN 6008	B 500 B	500	485	-	-



# Creloi 500S - B500B - BE500S

Revision: 04/2021 - Pag 3 of 17

## MECHANICAL CHARACTERISTICS

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	B 500 B	-	-	-	-
Belgium	NBN A 24-302	BE 500 S	-	-	550	550
Germany	DIN 488	B 500 B	-	-	-	-
Switzerland	SIA 262	B500B	-	-	-	-
Netherlands	NEN 6008	B 500 B	-	-	-	-

Country	Standard/ Specification	Grade	$R_{m,nom} / R_{e,nom}$		$R_{m,actual} / R_{e,actual}$	
			Value charact.	Value min.	Value charact.	Value min.
France	NF A 35-080-1	B 500 B	1.08	1.06	-	-
Belgium	NBN A 24-302	BE 500 S	-	-	1.08	1.05
Germany	DIN 488	B 500 B	1.08	1.08	-	-
Switzerland	SIA 262	B500B	1.08	1.08	-	-
Netherlands	NEN 6008	B 500 B	1.08	1.08	-	-

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

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

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	B 500 B	5.0	4.0	-	-	-	-
Belgium	NBN A 24-302	BE 500 S	5.0	5.0	-	14.0	-	10.0
Germany	DIN 488	B 500 B	5.0	5.0	-	-	-	-
Switzerland	SIA 262	B 500 B	5.0	5.0	-	-	-	-
Netherlands	NEN 6008	B 500 B	5.0	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



# Creloi 500S - B500B - BE500S

Revision: 04/2021 - Pag 4 of 17

## RANGE OF DIAMETERS

Country	Standard/ Specification	Grade	Nominal Diameter														
			8	10	12	14	16	-	20	-	25	-	-	-	32	-	40
France	NF A 35-080-1	B 500 B	8	10	12	14	16	-	20	-	25	-	-	-	32	-	40
Belgium	NBN A 24-302	BE 500 S	8	10	12	14	16	-	20	-	25	-	28	-	32	-	40
Germany	DIN 488	B 500 B	8	10	12	14	16	-	20	-	25	-	28	-	32	-	40
Switzerland	SIA 262	B500B	8	10	12	14	16	-	20	-	25	-	28	-	32	-	40
Netherlands	NEN 6008	B 500 B	8	10	12	14	16	-	20	-	25	-	28	-	32	-	40

## PACKAGING

Diameter in mm	Length of bars in m
8	5.95 to 18.00
10	5.95 to 18.00
12	5.95 to 18.00
14	5.95 to 18.00
16	6.00 to 24.00
20	6.00 to 24.00
25	6.00 to 24.00
28	6.00 to 24.00
32	6.00 to 24.00
40	6.00 to 24.00

## PACKAGING

LENGTH	TOLERANCES		PACKING
	Standard length of bars	Usual tolerances on length	Cut to specific lengths
5.95	-0/+50 mm	Tolerances to be agreed	~ 1500 kg
6.00	-0/+100 mm	Tolerances to be agreed	~ 1500 kg
7.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
8.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
9.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
10.00	-0/+100 mm	Tolerances to be agreed	2400 kg approx.
11.00	-0/+100 mm	Tolerances to be agreed	2400 kg approx.
12.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
13.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
14.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
15.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
16.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.



# Creloi 500S - B500B - BE500S

Revision: 04/2021 - Pag 5 of 17

LENGTH	TOLERANCES		PACKING
Standard length of bars	Usual tolerances on length	Cut to specific lengths	Pack weight
17.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
18.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
21.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
24.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.

MARKING		
ALPA	ITON	
0-31	0-39	

## ADDITIONAL INFORMATION

Ability to straighten after bending: CRELOI hot-rolled steels in diameters 8 to 16 mm 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: CRELOI steels are suitable for commonly used welding processes. Weldability is essentially based on compliance with specifications relating to chemical composition.

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.

## CERTIFICATIONS

FRANCE	ALPA: NF A 35-080-1 - B 500 B ITON: NF A 35-080-1 - B 500 B
BELGIUM	ALPA: NBN A 24-302 - BE 500 S ITON: NBN A 24-302 - BE 500 S
GERMANY	ALPA: DIN 488 - B 500 B ITON: DIN 488 - B 500 B
SWITZERLAND	ALPA: Quality System Certificate AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 ITON: Quality System Certificate AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001
NETHERLANDS	ALPA: NEN 6008 - B 500 B ITON: NEN 6008 - B 500 B
QUALITY / SAFETY / ENVIRONMENT	ALPA: Quality System Certificate ISO 9001, BS OHSAS 18001 et ISO 14001 ITON: Quality System Certificate ISO 9001, BS OHSAS 18001 et ISO 14001
QUALITY	PARSIDER RIVA ACIER: Multi-site Quality System Certificate ISO 9001



# Creloi B450C

**Sales office:** Riva Acier - Z.I. de Limay-Porcheville - F-78440 Gargenville  
**Tel:** +33 1.30.98.20.00 - **Fax:** +33 1.30.98.20.21  
**Email:** commercial.france@rivagroup.com

Revision 04/2021

## CHEMICAL COMPOSITION

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)				
			C	P	S	N	CEV
Italy	D.M. 14/01/2008	B450C	0.22	0.050	0.050	0.012	0.50

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

Cu max: 0.80

## MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	R <sub>e, nom</sub> (MPa)			R <sub>m, nom</sub> (MPa)
			Value charact.	Value min.	Value max.	Value charact.
Italy	D.M. 14/01/2008	B450C	450	425	572	540

Country	Standard/ Specification	Grade	R <sub>m, nom</sub> (MPa)		R <sub>m, actual</sub> (MPa)	
			Value charact.	Value min.	Value charact.	Value min.
Italy	D.M. 14/01/2008	B450C	540	-	-	-

Country	Standard/ Specification	Grade	R <sub>m</sub> / R <sub>c</sub>			
			Value charact. min	Value charact. max	Value min.	Value max.
Italy	D.M. 14/01/2008	B450C	1.15	1.35	1.13	1.37



# Creloi B450C

Revision: 04/2021 - Pag 7 of 17

Country	$R_{e,act} / R_{e,nom}$ max.	$R_{e,act} / R_{e,nom}$ min.
Italy	1.25	-

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

Country	Standard/ Specification	Grade	$A_{gt}$ (%)	
			Value charact.	Value min.
Italy	D.M. 14/01/2008	-	7.5	6.0

$A_{gt}$  Total percent elongation under maximum force

## RANGE OF DIAMETERS

Country	Standard/ Specification	Grade	Nominal Diameter													
			8	10	12	14	16	18	20	25	28	32	40			
Italy	D.M. 14/01/2008	B450C														

See us for the 6 mm diameter.

## PACKAGING

LENGTH	TOLERANCES		PACKING
Standard length of bars	Usual tolerances for length	Cut to specific lengths	Pack weight
5.95	-0/+50 mm	Tolerances to be agreed	~ 1500 kg
6.00	-0/+100 mm	Tolerances to be agreed	~ 1500 kg
7.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
8.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
9.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
10.00	-0/+100 mm	Tolerances to be agreed	2400 kg approx.
11.00	-0/+100 mm	Tolerances to be agreed	2400 kg approx.
12.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
13.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
14.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
15.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
16.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
17.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
18.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
21.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
24.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.



# Creloi B450C

Revision: 04/2021 - Pag 8 of 17

## PACKAGING

Diameter in mm	Length of bars in m
8	5.95 to 18.00
10	5.95 to 18.00
12	5.95 to 18.00
14	5.95 to 18.00
16	6.00 to 24.00
18	6.00 to 24.00
20	6.00 to 24.00
22	6.00 to 24.00
25	6.00 to 24.00
28	6.00 to 24.00
32	6.00 to 24.00
40	6.00 to 24.00

## MARKING

ALPA	ITON
0-31	0-39

## ADDITIONAL INFORMATION

Weldability: CRELOI steels are suitable for commonly used welding processes. Weldability is essentially based on compliance with specifications relating to CHEMICAL COMPOSITION.

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.

## CERTIFICATIONS

ITALY	ALPA: D.M. 14/01/2008 B450C ITON-SEINE: D.M. 14/01/2008 B450C
QUALITY / SAFETY / ENVIRONMENT	ALPA: Quality System Certificate AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 ITON: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001
QUALITY	PARSIDER RIVA ACIER: Multi-site Quality System Certificate





# K500B-T et K500C-T

**Sales office:** Riva Acier - Z.I. de Limay-Porcheville - F-78440 Gargenville

**Tel:** +33 1.30.98.20.00 - **Fax:** +33 1.30.98.20.21

**Email:** commercial.france@rivagroup.com

Revision 04/2021

## CHEMICAL COMPOSITION

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)				
			C	P	S	N	CEV
Sweden	SS 212540	K 500 B-T	0.22	0.050	0.050	0.012	0.43
Sweden	SS 212540	K 500 C-T	0.22	0.050	0.050	0.012	0.45

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

## MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	$R_{e,nom}$ (MPa)		$R_{m,nom}$ (MPa)		$R_{m,nom}/R_{e,nom}$	
			Value charact.	Value min.	Value charact.	Value min.	Value charact.	Value min.
Sweden	SS 212540	K 500 B-T	500	500	-	-	1.08	1.08
Sweden	SS 212540	K 500 C-T	500	500	-	-	1.15	1.15

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

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

Country	Standard/ Specification	Grade	$A_{gt}$ (%)		$A_{5d}$ (%)		$A_{10d}$ (%)	
			Value charact.	Value min.	Value charact.	Value min.	Value charact.	Value min.
Sweden	SS 212540	K 500 B-T	5.0	5	-	-	-	-
Sweden	SS 212540	K 500 C-T	7.5	7.5	-	-	-	-

$A_{gt}$  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



# K500B-T et K500C-T

Revision: 04/2021 - Pag 10 of 17

## RANGE OF DIAMETERS

Country	Standard/ Specification	Grade	Nominal Diameter													
Sweden	SS 212540	K 500 B-T	8	10	12	-	16	-	20	-	25	-	-	-	32	-
Sweden	SS 212540	K 500 C-T	8	10	12	-	16	-	20	-	25	-	-	-	32	-

## PACKAGING

Diameter in mm	Length of bars in m
8	5.95 to 18.00
10	5.95 to 18.00
12	5.95 to 18.00
16	6.00 to 24.00
20	6.00 to 24.00
25	6.00 to 24.00
32	6.00 to 24.00

LENGTH	TOLERANCES		PACKING
Standard length of bars	Usual tolerances on length	Cut to specific lengths	Pack weight
5.95	-0/+50 mm	Tolerances to be agreed	~ 1500 kg
6.00	-0/+100 mm	Tolerances to be agreed	~ 1000 kg
7.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
8.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
9.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
10.00	-0/+100 mm	Tolerances to be agreed	2400 kg
11.00	-0/+100 mm	Tolerances to be agreed	2400 kg
12.00	-0/+100 mm	Tolerances to be agreed	1000 kg
13.00	-0/+100 mm	Tolerances to be agreed	2500 kg
14.00	-0/+100 mm	Tolerances to be agreed	2500 kg
15.00	-0/+100 mm	Tolerances to be agreed	2500 kg
16.00	-0/+100 mm	Tolerances to be agreed	2500 kg
17.00	-0/+100 mm	Tolerances to be agreed	2500 kg
18.00	-0/+100 mm	Tolerances to be agreed	2500 kg
21.00	-0/+100 mm	Tolerances to be agreed	2500 kg
24.00	-0/+100 mm	Tolerances to be agreed	2500 kg



# K500B-T et K500C-T

Revision: 04/2021 - Pag 11 of 17

## MARKING

ALPA	ITON
0-31	0-39

## 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.

## CERTIFICATIONS

Sweden	ALPA: SS ENV 10080 - K 500 B-T and K500 C-T ITON: SS ENV 10080 - K 500 B-T and K500 C-T
QUALITY / SAFETY / ENVIRONMENT	ALPA: Quality System Certificate AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 ITON: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001
QUALITY	PARSIDER RIVA ACIER: Multi-site Quality System Certificate



# B500B

**Sales office:** Riva Acier - Z.I. de Limay-Porcheville - F-78440 Gargenville  
**Tel:** +33 1.30.98.20.00 - **Fax:** +33 1.30.98.20.21  
**Email:** commercial.france@rivagroup.com

Revision 04/2021

## CHEMICAL COMPOSITION

Country	Standard/ Specification	Grade	Chemical composition Cast analysis % max (mass)							
			C	Si	Mn	P	S	Cu	N	CEV
Finland	SFS 1300	B 500 B	0.22	-	-	0.050	0.050	0.80	0.012	0.50

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

\* Si minimum = 0.15 %

## MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	R <sub>e, nom</sub> (MPa)		R <sub>m, nom</sub> (MPa)		R <sub>m, nom</sub> /R <sub>e, nom</sub>	
			Value charact.	Value min.	Value charact.	Value min.	Value charact.	Value min.
Finland	SFS 1300	B 500 B	500	500	550	500	1.08	1.08

R<sub>e, nom</sub> Yield strength determined using nominal steel cross-section  
R<sub>m, nom</sub> Tensile strength determined using nominal steel cross-section

Country	Standard/ Specification	Grade	A <sub>gt</sub> (%)		A <sub>200</sub> (%)		A <sub>10d</sub> (%)	
			Value charact.	Value min.	Value charact.	Value min.	Value charact.	Value min.
Finland	SFS 1268	B 500 B	5.0	5.0	-	-	-	-

A<sub>gt</sub> Total percent elongation under maximum force  
A<sub>200</sub> Percent elongation after rupture determined on specimen length between marks equal to 200 mm  
A<sub>10d</sub> Percent elongation after rupture determined on specimen length between marks equal to 10.d



# B500B

Revision: 04/2021 - Pag 13 of 17

RANGE OF DIAMETERS															
Country	Standard/ Specification	Grade	Nominal Diameter												
Finland	SFS 1300	B 500 B	-	-	-	16	-	20	-	25	-	-	-	32	-

See us for 6 mm diameter.

PACKAGING	
Diameter in mm	Length of bars in m
8	5.95 to 18.00
10	5.95 to 18.00
12	5.95 to 18.00
16	6.00 to 24.00
20	6.00 to 24.00
25	6.00 to 24.00
32	6.00 to 24.00

LENGTH	TOLERANCES		PACKING
	Standard length of bars	Usual tolerances on length	Cut to specific lengths
5.95	-0/+50 mm	Tolerances to be agreed	~ 1500 kg
6.00	-0/+100 mm	Tolerances to be agreed	~ 1500 kg
7.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
8.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
9.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
10.00	-0/+100 mm	Tolerances to be agreed	2400 kg approx.
11.00	-0/+100 mm	Tolerances to be agreed	2400 kg approx.
12.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
13.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
14.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
15.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
16.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
17.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
18.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
21.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.
24.00	-0/+100 mm	Tolerances to be agreed	2500 kg approx.



# B500B

Revision: 04/2021 - Pag 14 of 17

## MARKING

ALPA	ITON
0-31	0-39

## 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.

## CERTIFICATIONS

FINLAND	ALPA: SFS 1200 to 1202, SFS 1215 et 1251 - A 500 HW ALPA: SFS 1300 - B 500 B ITON: SFS 1200 to 1202, SFS 1215 and 1251 - A 500 HW ITON: SFS 1300 - B 500 B
QUALITY / SAFETY / ENVIRONMENT	ALPA: Quality System Certificate AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 ITON: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001
QUALITY	PARSIDER RIVA ACIER: Multi-site Quality System Certificate



# Grades B500B - B500C

**Sales office:** Riva Acier - Z.I. de Limay-Porcheville - F-78440 Gargenville  
**Tel:** +33 1.30.98.20.00 - **Fax:** +33 1.30.98.20.21  
**Email:** commercial.france@rivagroup.com

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
United Kingdom	BS 4449:2005	Grade B 500 C	0.22	0.050	0.050	0.80	0.012	0.50

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

## MECHANICAL CHARACTERISTICS

Country	Standard/ Specification	Grade	R <sub>e,nom</sub> (MPa)			R <sub>m,nom</sub> /R <sub>e,nom</sub>		
			Value charact.	Value min.	Value max.	Value charact.	Value min.	Value max.
United Kingdom	BS 4449:2005	Grade B 500 B	500	500	650	1.08	1.08	-
United Kingdom	BS 4449:2005	Grade B 500 C	500	500	650	1.15- 1.35	1.15	1.35

R<sub>e,nom</sub> Yield strength determined using nominal steel cross-section  
R<sub>m,nom</sub> Tensile strength determined using nominal steel cross-section

Country	Standard/ Specification	Grade	A <sub>gt</sub> (%)		A <sub>5d</sub> (%)	
			Value charact.	Value min.	Value charact.	Value min.
United Kingdom	BS 4449:2005	Grade B 500 B	5.0	4.0	-	-
United Kingdom	BS 4449:2005	Grade B 500 C	7.5	6.0	-	-

A<sub>gt</sub> Total percent elongation under maximum force  
A<sub>5d</sub> Percent elongation after rupture determined on specimen length between marks equal to 5.d  
A<sub>10d</sub> Percent elongation after rupture determined on specimen length between marks equal to 10.d



# Grades B500B - B500C

Revision: 04/2021 - Pag 16 of 17

## RANGE OF DIAMETERS

Country	Standard/ Specification	Grade	Nominal Diameter													
United Kingdom	BS 4449:2005	Grade B 500 B	8	10	12	14	16	-	20	-	25	-	-	-	32	40
United Kingdom	BS 4449:2005	Grade B 500 C	-	-	-	-	16	-	20	-	25	-	-	-	32	40

## PACKAGING

Diameter in mm	Length of bars in m
8	5.95 to 18.00
10	5.95 to 18.00
12	5.95 to 24.00
14	5.95 to 24.00
16	6.00 to 24.00
20	6.00 to 24.00
25	6.00 to 24.00
32	6.00 to 24.00
40	6.00 to 24.00

LENGTH	TOLERANCES		PACKING
	Standard length of bars	Usual tolerances on length	Cut to specific lengths
5.95	-0/+50 mm	Tolerances to be agreed	~ 1500 kg
6.00	-0/+100 mm	Tolerances to be agreed	~ 1500 kg
7.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
8.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
9.00	-0/+100 mm	Tolerances to be agreed	~ 1800 kg
10.00	-0/+100 mm	Tolerances to be agreed	2400 kg
11.00	-0/+100 mm	Tolerances to be agreed	2400 kg
12.00	-0/+100 mm	Tolerances to be agreed	2500 kg
13.00	-0/+100 mm	Tolerances to be agreed	2500 kg
14.00	-0/+100 mm	Tolerances to be agreed	2500 kg
15.00	-0/+100 mm	Tolerances to be agreed	2500 kg
16.00	-0/+100 mm	Tolerances to be agreed	2500 kg
17.00	-0/+100 mm	Tolerances to be agreed	2500 kg
18.00	-0/+100 mm	Tolerances to be agreed	2500 kg
21.00	-0/+100 mm	Tolerances to be agreed	2500 kg
24.00	-0/+100 mm	Tolerances to be agreed	2500 kg





# Grades B500B - B500C

Revision: 04/2021 - Pag 17 of 17

## MARKING

ALPA	ITON
0-31	0-39

## 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.

## CERTIFICATIONS

UNITED KINGDOM	ALPA: BS 4449 - B500B - B500C ITON: BS 4449 - B500B
QUALITY	ALPA: Quality System Certificate - CARES ITON: Quality System Certificate - CARES Parsider RIVA ACIER: Multi-site Quality System Certificate AFAQ/AFNOR
QUALITY / SAFETY / ENVIRONMENT	ALPA: Quality System Certificate AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001 ITON: Certificat Système Qualité AFAQ/AFNOR ISO 9001, ISO 14001, BS OHSAS 18001, ISO 50001