

CERTIFICATE

CERTIFIÉ PAR AFCAB



ACIERS POUR BÉTON ARMÉ

Nr. **B94/101** REV. 19

Granted to

FERRIERA VALSABBIA

For the steels

VAL 500 S

Manufactured in the factory of

ODOLO (IT)

With this decision notified by **AFCAB**, **AFNOR** Certification grants the right to use the mark to this company, for the products mentioned above, according to the conditions detailed in the General rules of the **NF** mark and the certification rules **NF 139**.



ORGANISME
ACCREDITÉ
SOUS LE N° 5-0007
Portée disponible sur
www.cofrac.fr

Date of decision : 03/10/2018
Date of validity : 30/09/2021

On behalf of AFCAB,

The reader is invited to check the validity of this certificate (see fact sheet) by visiting the Web site www.afcab.org
This certificate consists of 4 pages including this one.

Bernard CRETON
Chairman of AFCAB.



AFCAB


ASSOCIATION FRANÇAISE DE CERTIFICATION DES ARMATURES DU BÉTON
28 rue de Liège 75008 Paris - France • Tél : + 33(0)1 44 90 88 80 • www.afcab.org • info@afcab.org


This document is a translation. The original certificate in French is reference in case of dispute.
No mention may be added or deleted of this certificate. Any offender may be sued for abusive use of the mark.

DESCRIPTION

VALIDITY OF THE CERTIFICATE

This certificate attests that the products here described comply with the NF A 35-080-1 standard and are manufactured in accordance with the requirements of quality management included in the  - **Aciers pour béton armé** - RCC03 certification rules in force. These products shall bear the  - **Aciers pour béton armé** mark.

This decision cancels and replaces any former decision. It is valid with reservation of the results of the continuous surveillance performed by **AFCAB**, which may make any decision of sanction according to the general rules of the **NF** mark and in the  - **Aciers pour béton armé** - RCC03 certification rules in force. The reader may verify that the certificate is still valid on the Internet site of **AFCAB** : www.afcab.org rubric "Certificates".

The reader may verify that the product which is delivered, is covered by this certificate by verifying that the labels bear the  - **Aciers pour béton armé** logo and the number of this certificate.

HOLDER

Manufacturing plant	Commercial contact	Head offices
FERRIERA VALSABBIA SPA Via Marconi 13/15 I - 25076 ODOLO	Duilio Vesconi Phone : +(39) 36 58 270 Fax : +(39) 36 58 26 150 E-mail : info@ferriera-valsabbia.com Web : www.ferriera-valsabbia.com	FERRIERA VALSABBIA SPA Via Marconi 13/15 I - 25076 ODOLO

CERTIFIED STEELS

Name of the steel : VAL 500 S
Standard reference : NF A 35-080-1

Grade : B500B

Description : VAL 500 S is a round bar with two series of crescent-ribs in opposite directions, forming an angle greater than 45° with the longitudinal axis of the bar. The angles of two consecutive ribs differ by at least 10° on one of the two series of ribs of the bar. There are no longitudinal ribs.

Diameters included in the standard only			
	Certified range of diameter	Ability of straightening after bending	Fatigue resistance
Rebars	8 à 40 mm	8 à 16 mm	-
Coils	-	-	-



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Bond :

Diamètre	8	9	10	12	≥ 14
f_R	0,040	0,040	0,040	0,040	0,056

où f_R est calculé par la formule $f_R = \lambda \cdot h/c$
avec λ défini dans le tableau ci-dessous :

Diamètre (mm)	8 et 9	10 à 25	32 et 40
Coefficient λ	0.56	0.61	0.70

Marking : The distinctive mark of VAL 500 S steel is given in the following scheme :



CERTIFIED CHARACTERISTICS

The steels that bear the **NF** - **Aciers pour béton armé** mark delivered by **AFCAB** :

were initially evaluated to establish that the product fulfils the requirements of the NF NF A 35-080-1 standard and the additional requirements included in the **NF** - **Aciers pour béton armé** - RCC03 certification rules in force :

- ▶ Yield strength : ≥ 500 MPa (characteristic value), ≥ 475 MPa (minimum value).
- ▶ $R_{e,act}/R_{e,nom}$ ratio : $\leq 1,30$ (characteristic value), $\leq 1,32$ (maximum value).
- ▶ R_m/R_e ratio : $\geq 1,08$ (characteristic value), $\geq 1,06$ (minimum value)*.
- ▶ A_{gt} : $\geq 5\%$ (characteristic value), $\geq 4\%$ (minimum value)*.
- ▶ Ability to bend up (bend or rebend test).
- ▶ Linear mass : $\pm 4,5\%$.
- ▶ Bond : see table here above.
- ▶ Weldability, attested through chemical composition (on cast) :

$$C \leq 0,22\% - P \leq 0,050\% - S \leq 0,050\% - N \leq 0,012\% - Cu \leq 0,80\% - C_{eq} = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Ni+Cu}{15} \leq 0,50\%$$

* : reduced values for the diameter 5 mm

were manufactured in accordance to the quality management requirements of the **NF** - **Aciers pour béton armé** - RCC03 certification rules in force,

have an identifiable origin.

Warning : The values mentioned above are summarized. For a complete information, reference texts (especially the standard) shall be consulted.

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CERTIFIABLE OPTIONAL CHARACTERISTICS

See the table detailing the options certified by the holder in the chapter "certified steels" :

- ▶ Ability to straighten up after being bent once (see **AFCAB** procedure E4).
- ▶ Fatigue resistance: 2 million load cycles corresponding to a maximum stress of $\sigma_{max} = 60\%$ of the yield strength and a range of stress variation $2\sigma_a$ of 150 MPa, in accordance with §7.3.3. of standard NF A 35-080-1.



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