

## Technical specification of Form Tie Bars Grade 900/1100

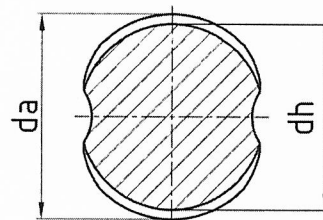
**Delivery statement:** hot rolled bar with right-hand thread ribs on full length

**Nominal dimensions:** 15; 20 and 26,5 mm.

**Steel producer:** melting practice is left at ArcelorMittal Ostrava as production mill

**Rolling mill:** ArcelorMittal Ostrava

**Application:** formwork anchor



### 1. DIMENSIONS

Nominal diameter $d_s$ (mm)	Nominal cross section $A_s$ (mm <sup>2</sup> )	Nominal weight $G$ (kg/m)	Core diameter	Max outer diameter	Pitch
			$d_h$ (mm)	$d_a$ (mm)	(mm)
15	173	1,41	14,8	17,6	10,0
20	309	2,51	19,8	23,0	10,0
26,5	571	4,48	26,3	30,5	12,95

*The actual values may differ due to production tolerances.*

Weight is calculated with 7.85 kg/dm<sup>3</sup>.

Figures given in the table above are typical values for information only.

The screwing ability is controlled with a test nut.

Standard length: 6 000 mm, other lengths upon agreement with supplier.

### 2. CHEMICAL COMPOSITION:

Grade	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Cu(%)	Cr(%)	Ni(%)	N2 (%)
900/1100 (Grade 160)	≤ 0.350	≤ 2.000	≤ 0.040	≤ 0.040	≤ 1.000	≤ 0.600	≤ 1.500	≤ 0.500	≤ 0.015

### 3. MECHANICAL PROPERTIES

Yield strength $R_{e\min}$ (MPa)	Tensile strength $R_{m\min}$ (MPa)	Elongation $A_{gt\min}$ (%)	Elongation $A_{10d\min}$ (%)
900	1100	4	7

*The actual values may differ due to production tolerances.*

Tensile testing is carried out according to ISO 15630-3, bars for pre-stressing steel.

$R_{p0,2}$  is calculated from 0,2F<sub>m</sub> to 0,7F<sub>m</sub>, F<sub>m</sub> being the ultimate load.

Bending test at 180° is carried out with a 6d mandrel.

**Additional test acc. NF P93-350:1995:** CVN test at - 20°C – min. 28J.

#### 4. WELDABILITY

Form Tie Bars can be welded for support or setting up purposes, using standard procedures.  
For structural welding, specific procedures for steel containing Cr, Si, Nb, B and Mo must be respected.

#### 5. TESTS

##### 5.1. Standard tests performed per heat

Chemical composition  
Mechanical properties  
Dimension checking  
Bending at 180°  
Screwing ability

##### 5.2. Specific tests are possible on request: please contact AM for more information

#### 6. INSPECTION

Mill certificate 3.1 according to EN 10204.

Other mill certificates are possible on request. Inspection of the material by the customer or by a third party has to be requested at the time of order.

A quality inspection plan can be provided on request.

**Note:** The company reserves the right to amend details as and where necessary in line with its policy of continuous product development without any notice.