

Title (en)  
Method to produce welded or electrically welded reinforcement and relative device

Title (de)  
Verfahren und Vorrichtung zur Herstellung von geschweissten Bewehrungsmatten

Title (fr)  
Procédé et dispositif pour la production de treillis de renforcements soudés

Publication  
**EP 0780174 A1 19970625 (EN)**

Application  
**EP 96120046 A 19961213**

Priority  
IT UD950249 A 19951222

Abstract (en)  
Method to produce welded or electrically welded reinforcement, such as reinforcement, trestles, beams, mesh, etc., starting with steel wire rods, the reinforcement comprising a plurality of longitudinal wire rods (11a) welded to a plurality of transverse wire rods (11b), the wire rods (11a, 11b), smooth or ribbed, being fed to the welding machine directly from wound rolls or from lengths of rods pre-sheared to size directly as they arrive from a hot rolling line, in which: the starting material is subjected to a cooling process on the rolling line from a temperature of 800 DIVIDED 950 DEG C at the loop-forming head to about 500 DEG C at the end of the cooling conveyor in a period of time which varies from 2 to about 10 minutes; the temperature during the step when the reel is bound at the end of the loop cooling conveyor is about 200 DEG C; the wire rod being fed to the reinforcement forming machine is subjected in line, on the machine, to a drawing and stretching deformation which causes an elongation of between 1% and 7% and an Rm/Re ratio of at least more than 1.08. Device to produce welded or electrically welded reinforcement from steel wire rods, the device comprising at least respective units (21) to unwind and feed longitudinal (11a) and transverse (11b) wire rods, respective pre-unwinding means (13), respective means (15) for feeding step-by-step, one or more welding units (16), respective shears (17a, 17b) and possible binding and packaging means (19), there being included between the respective unwinding and feeding units (21) and the welding units (16) one or more means (14) for the drawing and stretching of the wire rod arriving from the hot rolling process and fed from wound rolls (12) or in rods pre-sheared to size, this drawing and stretching action inducing on the wire rod (11) an elongation of between 1% and 7% and an Rm/Re ratio of at least more than 1.08.  
<IMAGE>

IPC 1-7  
**B21F 27/10**; **B21F 23/00**; **B21F 27/20**

IPC 8 full level  
**B21F 23/00** (2006.01); **B21F 27/10** (2006.01); **B21F 27/20** (2006.01)

CPC (source: EP)  
**B21F 23/00** (2013.01); **B21F 27/10** (2013.01); **B21F 27/20** (2013.01)

Citation (search report)  
• [YA] AT 214241 B 19610327 - EVG ENTWICKLUNG VERWERT GES  
• [Y] US 4332630 A 19820601 - ECONOMOPOULOS MARIOS, et al  
• [A] EP 0255507 A2 19880203 - EVG ENTWICKLUNG VERWERT GES [AT]  
• [A] DE 2825592 A1 19791213 - SCHEID HEINRICH  
• [A] DE 4137122 A1 19930513 - INDRA GMBH [DE]  
• [A] US 4298406 A 19811103 - BROWNLEE MALCOLM, et al  
• [A] PATENT ABSTRACTS OF JAPAN vol. 2, no. 49 (E - 025) 6 April 1978 (1978-04-06)

Cited by  
CN104043763A; CN111633159A; CN103008508A; GB2322386A; CN106944579A; EA033245B1; EP2754511A1; WO2021186346A1; WO0051760A1; WO9941029A1; WO9835771A1; WO2015151029A1; US10926315B2

Designated contracting state (EPC)  
AT BE CH DE ES FR GB GR IT LI NL PT SE

DOCDB simple family (publication)  
**EP 0780174 A1 19970625**; **EP 0780174 B1 20010314**; AT E199667 T1 20010315; DE 69612069 D1 20010419; DE 69612069 T2 20010802; ES 2157393 T3 20010816; IT 1281466 B1 19980218; IT UD950249 A0 19951222; IT UD950249 A1 19970622

DOCDB simple family (application)  
**EP 96120046 A 19961213**; AT 96120046 T 19961213; DE 69612069 T 19961213; ES 96120046 T 19961213; IT UD950249 A 19951222