

## INTRODUCTION

MS 146 :2014 specifies the requirements for ribbed weldable reinforcing steel used for the reinforcement of concrete structures.

This standard covers steel delivered in the form of bars, coils and decoiled products. This standard contains provisions for three steel grades, all of 500 MPa characteristic yield strength, but with different ductility characteristics. The three grades are B500A, B500B and B500C.

\*This standard is identical to BS 4449:2005 and conform to EN 10080 that is aligned with Eurocode 2 (EC2); EN 1992-1-1 (General rules and rules for building) and CE marking.

In short, MS 146: 2014 provide 4 methods for deformed bar marking as follows:

- i) using widened ribs;
- ii) using missing ribs;
- iii) using numbers; and
- iv) using dots.

## BAR – IDENTIFICATION OF THE MANUFACTURER AS APPROVED BY CIDB

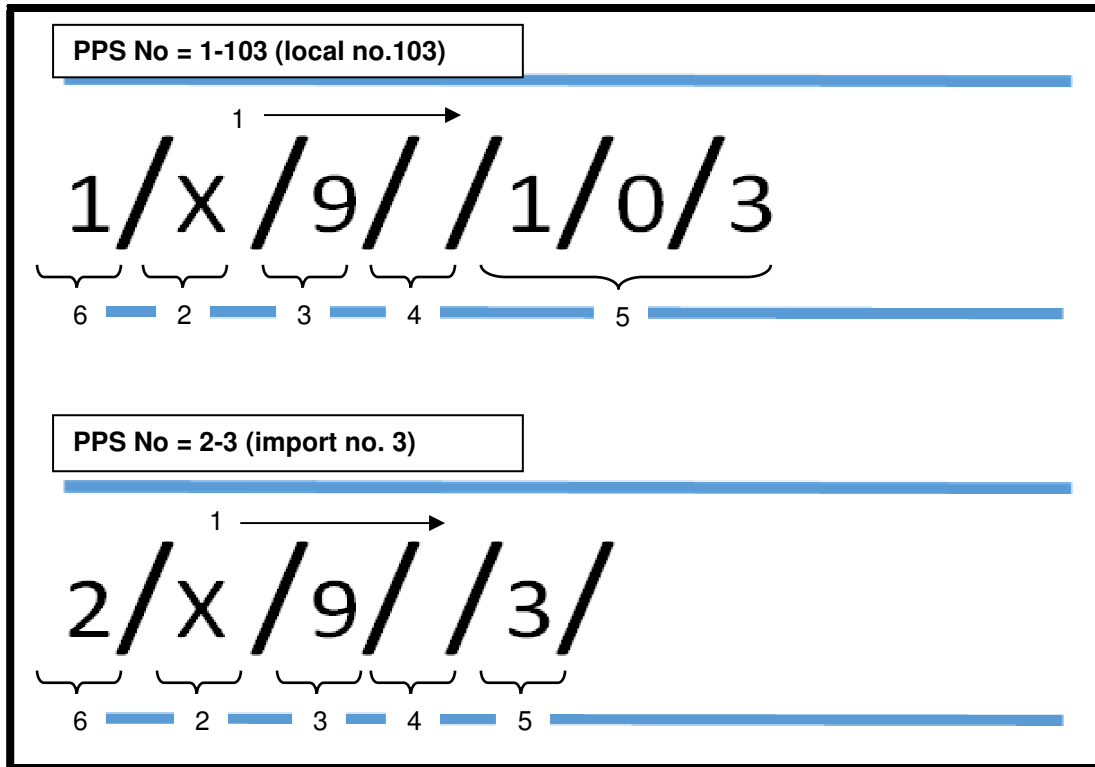
After deliberation with the industry, and approval from Construction Material Steering Committee on 3<sup>rd</sup> September 2015, deformed bars shall be identified by rolled-on legible marks on the surface or ribs at intervals not greater than 1.5m. In order to identify the source of manufacture, two methods for deformed bar marking will be allowed to use:

- i) using numbers; and
- ii) using dots

## EFFECTIVE DATE FOR ENFORCEMENT ON MS 146:2014

All deformed bar shall be marked in accordance to MS 146:2014 requirements with effective on **1<sup>st</sup> December 2016.**

Bar marking using numerical system for bar ≥ 10mm diameter



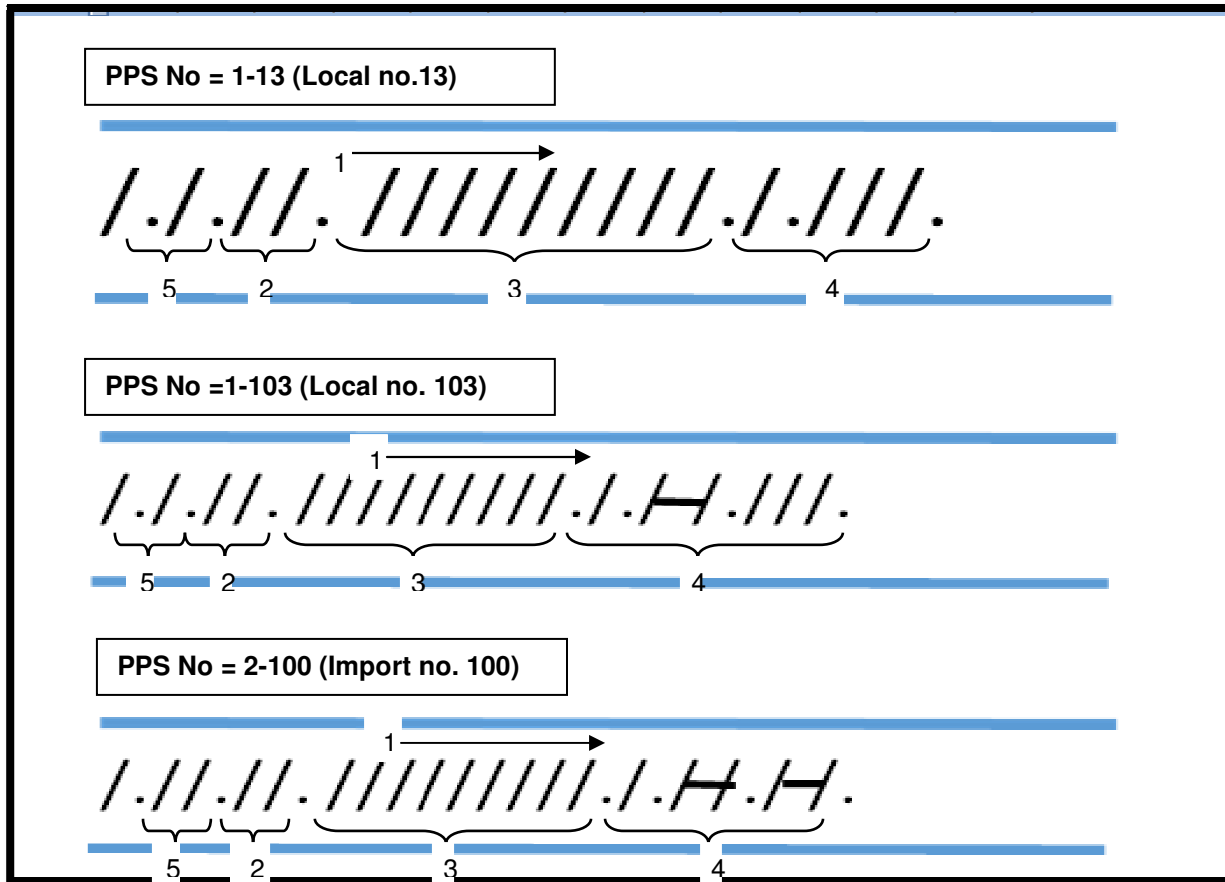
**KEY**

- 1 Direction of reading
- 2 Start (x)
- 3 Country number (9)
- 4 Separation between country number origin and works number
- 5 Works number (103) (3)
- 6 Local (1) or imported materials (2)

**Identification of the country of origin**

Country	Country number
Austria, Czech Republic, Germany, Poland, Slovakia	1
Belgium, Netherlands, Luxembourg, Switzerland	2
France, Hungary	3
Italy, Malta, Slovenia	4
UK, Ireland, Iceland	5
Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Sweden	6
Portugal, Spain	7
Cyprus, Greece	8
Other Countries	9

## Bar marking using dot system for bar < 10mm diameter



### KEY

- 1 Direction of reading
- 2 Start
- 3 Country number (9)
- 4 Works number (13) (103) (100)
- 5 Local (1) or imported materials (2)

### Identification of the country of origin

Country	Country number
Austria, Czech Republic, Germany, Poland, Slovakia	1
Belgium, Netherlands, Luxembourg, Switzerland	2
France, Hungary	3
Italy, Malta, Slovenia	4
UK, Ireland, Iceland	5
Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Sweden	6
Portugal, Spain	7
Cyprus, Greece	8
Other Countries	9

## Sample of Sijil Perakuan Pematuhan Standard (PPS) CIDB



No. Perakuan : **000529**

### PERAKUAN PEMATUHAN STANDARD (BAHAN BINAAN)

Adalah dengan ini Pengilang/Pergeuar yang dinyatakan di bawah ini telah mengeluarkan bahan binaan yang diperakui oleh Lembaga mengikut Bahagian VIIA Akta Lembaga Pembangunan Industri Pembinaan Malaysia (Pinjaman 2011). Perakuan ini adalah tertakluk kepada syarat-syarat yang telah ditetapkan. Perakuan ini mengesahkan bahawa bahan atau produk binaan yang dinyatakan di bawah telah diperakuan oleh Lembaga.

No. Pendaftaran  
Nama Pengilang / Pengeluar  
Alamat Kilang Berdaftar

**1160101JH0011**  
**Syarikat ABC Sdn Bhd**  
**Jalan 123, Kaw. Perindustrian Johor**  
**12345 Johor**

.AM

**Kategori dan Jenis produk bahan binaan :**  
(Rujuk Lampiran A untuk butiran terperinci)

**GLASS**  
- Laminated Safety Glass

Tarikh Mula Berkuatkuasa : 11-11-2015  
Tarikh Tamat Tempoh Perakuan : 10-11-2016

Perakuan ini hendaklah diperbaharui selawat-lewatnya 30 hari sebelum tarikh tamat tempoh perakuan

Nota: Perakuan dikeluarkan setelah Lembaga menjalankan pemeriksaan dan pengesahan ke atas kilang dan produk-produk yang terkandung di dalam Pensijilan Produk (Product Certification) yang dikeluarkan oleh Badan Pensijilan yang diiktiraf.

  
**IR. MUKHTAR CHE ALI**  
**PENGURUS BESAR**  
**BAHAGIAN BAHAN BINAAN**  
b.p Ketua Eksekutif



**Cert No**  
**(will change)**

**0011 = Mill**  
**No. (will not**  
**change)**

**Validity of**  
**PPS**  
**(1 year)**

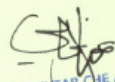
LAMPIRAN A

No. Pendaftaran  
No. Perakuan  
No. Pengilang / Pengeluar

**1160101JH0011  
0011  
Syarikat ABC Sdn Bhd**

Kategori	Jenis / Saiz	Jenama	Standard
GLASS	Laminated Safety Glass 12.38,12.76,13.14,13.52	DDG	MS 1498:2011

List of model and sizes, brand and specified standard of products

  
Ir. MUKHTAR CHE ALI 28/11/15  
Pengurus Besar  
Bahagian Bina-Binaan  
Lembaga Pembangunan Industri  
Pembinaan Malaysia (CIDB)