



Marine &amp; Offshore

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## RECOGNITION FOR BV MODE II SCHEME

**Steel Dynamics, Inc., Engineered Bar Products Division**  
Pittsboro - UNITED STATES OF AMERICA

**Summary of the range of the recognition which is detailed in the subsequent page(s):**

Plate, Section and Bar (G0493) / Rolled Products for Machinery and Equipment (9015I)

*This certificate is issued to attest that Bureau Veritas Marine & Offshore has performed, at the above company's request and in compliance with the requirements of NR320, a satisfactory assessment of the manufacturing facilities and associated quality procedures related to the range of the recognition.*

**This certificate will expire on: 17 Dec 2023**

For BUREAU VERITAS,

At BV PORT EVERGLADES CENTRE, on 28 Jan 2020,

Flavio Rosas



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfRecognition.jsp?id=wsxduozex3>

BV Mod. Ad.E 697 June 2017

This certificate consists of 2 page(s)

## THE SCHEDULE OF RECOGNITION

### 1. RANGE OF THE RECOGNITION

The products corresponding to the categories listed in the table below are to be certified individually or per batch by Bureau Veritas Marine & Offshore in compliance with the applicable requirements (IBV products as defined in NR320).

Generic product	Description
PLATE, SECTION AND BAR	Rolled cornered square bar; Carbon-Manganese micro alloyed steel; 7" by 7" in Dimension, Typical length: 29' 7-1/8" (355"), Typical weight: 2.5 tons (5000LBS)/bar; Deoxidation using Si, Refining using Lime & Killed with Al; Delivery condition: As-rolled

### 2. LIMITATIONS

The certificates listed in the range of recognition are to be valid, as applicable.

Bureau Veritas Marine & Offshore is to be informed immediately of any modification to manufacturing facilities and associated quality procedures in order to agree on appropriate actions.

Steel Dynamics, Inc., Engineered Bar Products Division has to apply for the periodical audits as agreed with Bureau Veritas Marine & Offshore.

### 3. PERIMETER OF CERTIFICATION

Quality system of following site(s) has been assessed:

Steel Dynamics, Inc., Engineered Bar Products Division - Pittsboro - UNITED STATES OF AMERICA

### 4. REMARKS

1. Rolled corner steel bars (RCSB) are to be forged to crankshafts by ThyssenKrupp Crankshaft Company (TKCC), Danville, IL.
2. Crankshafts forged by TKCC are to be supplied to Caterpillar, Inc.
3. Grade of RCSB: SDI internal grade 1537V4-01, Caterpillar Specification/Grade 1E1586.
4. Chemical targets (weight %) of RCSB are as follows: C 0.35-0.40, Mn 1.35-1.50, Si 0.35-0.70, P 0.030 max, S 0.015-0.030, Cr 0.10-0.20, Ni 0.25 max, Al 0.010-0.040, V 0.05-0.12, N 0.010-0.017, Nb 0.05 max.

\*\*\* END OF CERTIFICATE \*\*\*