

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS S-DM-61.101-GS/PL
		Former Designation: ESP-DM-61.101-GS
TITLE: Round Head Metallic Drive Screws Metric Series (Noun Code 7450)	CURRENT REV No.: 1506	DATE: June 2015
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: ESP-DM-61.101-GS - August 2006
PRINTED COPIES OF THIS DOCUMENT MUST BE VERIFIED FOR CURRENT REVISION		
<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		
Change Notice: Changed to New MPAPS format; Combined GS, PP.		

1.0 GENERAL:

This specification contains the essentials of the following standards:

American National Standard: B-18.6.4

British Standards Institution: BS 4174

Metallic drive screws in this standard are primarily for use in cast iron, metal shapes and plastics. These screws are hammered or forced into appropriate holes and are intended for making permanent fastenings.

2.0 POLICY FOR SELECTING PARTS FOR NEW DESIGN: Approved parts are so designated to reduce variety of parts and assure maximum availability, interchangeability, and cost savings.

For new design, parts shall be selected from "Approved" part list only.

Finishes: Plain (PLN)
Zinc Trivalent (ZN6A)

Nominal Sizes and
Length Incrementation:

Dimensions in millimeters:

Length	Nominal Size							
	0	2	4	6	8	10	12	14
3.2	X							
4.8	X	X	X					
6.4	X	X	X	X	X			
8		X	X	X	X	X	X	
9.5				X	X	X	X	X
12.7						X	X	X

3.0 HEAD HEIGHT: The tabulated head height represents a metal to metal measurement, parallel to axis of screw, from the top of head to the bearing surface.

4.0 BEARING SURFACE: The bearing surface of the head will be perpendicular to the axis of the screw shank within 2°.

This document is restricted and may not be sent outside Navistar, Inc. or reproduced without permission from Corporate Technical Standards. Suppliers are required to assume all patent liability. ©2015 by Navistar, Inc.

JUNE 2015

NUMBER: MPAPS S-DM-61.101-GS/PL	TITLE: Round Head Metallic Drive Screws	REVISION: 1506
--	--	---------------------------------

5.0 ECCENTRICITY: The head will not be eccentric with axis of screw by more than 3 percent of the maximum head diameter. Eccentricity is defined as one-half of the full indicator movement (FIM).

6.0 LENGTH: The length of screw will be measured, parallel to axis of screw, from the bearing surface of head to the extreme end of pilot point. The tolerance on length will be as tabulated below:

Nominal Length	Tolerance on Length
Up to 9.5 mm (3/8 inch) Incl.	± 0.5 mm (.02 in)
Over 9.5 mm (3/8 inch)	± 0.8 mm (.03 in)

7.0 THREADS: Threads will have a lead angle of 45 ° to 65 °.

8.0 THREAD LENGTH: Screws will have fully formed threads extending from the base of pilot to the head except that the threads at entering end and under head may have incomplete crests for a length not to exceed one-half of the maximum screw diameter, due to the natural flow of material in the thread forming operation.

9.0 POINT: Screws will have pilot point, the blunt end of which may be slightly angular due to the natural flow of material in the cut-off process.

10.0 MATERIAL: Carbon steel screws (CST) suitably hardened to meet the following performance requirement.

Screws driven into holes of sizes recommended (see dimensional table) in steel test plates having a hardness of Rockwell B 70 to 85, or in cast iron, will produce mating threads without shearing of the threads on screw or breaking the screw.

11.0 FINISHES: Screws will be furnished plain, plated or coated in accordance with the Navistar Engineering Material Specification and Class listed below.

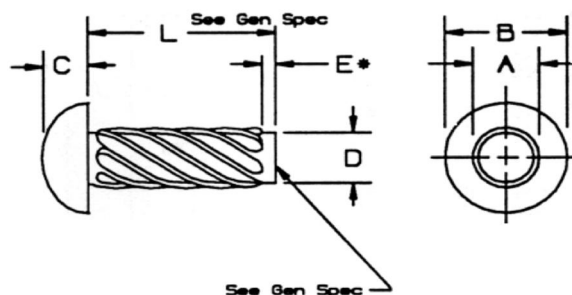
Zinc Trivalent (ZN6A) on steel – MPAPS G-20, Class 6A.

Chromium Bright (CRB) – CEMS G-19, Part III, Class 5 CRB.

12.0 RESTRICTED CHEMICAL SUBSTANCES: Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.

13.0 METHOD OF DESIGNATION: Drive screws will be designated by nominal size, length, word description, material, finish, and part number as shown in the following example:

8 x 9.5 mm Drive Screw, CST, ZN6A, Part Number



This document is restricted and may not be sent outside Navistar, Inc. or reproduced without permission from Corporate Technical Standards. Suppliers are required to assume all patent liability. ©2015 by Navistar, Inc.

JUNE 2015