

**PAINT CLEARING SCREWS - PERFORMANCE****FOREWORD**

During the November 2005 update, Table 2 and the design variant diagrams were revised. Designation characters were lined up with ISO convention. Dimension 'M' was included for all variants, dimension Lp (formally X) was aligned with WA 900. Notes were added to clarify the diagram and table requirements. Variant G was added.

1. SCOPE

This specification covers the performance requirements of ISO metric screws with a paint clearing feature incorporated at the screw point and with physical properties in accordance with WA 950.

1.1 REFERENCES

WSK-M64J29-C1-C3-Waterborne electrocoat
WSK-M6J160-A1 Primer surfacer, colored, PU modified polyester, medium solid, 165 °C baking temp.
WSK-M50J111-A Paint, medium solid polyester, baking, exterior topcoat.

2. GENERAL

Preferred designs of paint clearing feature are shown in Clause 5. Other designs shall only be used if approval is obtained from the Worldwide Fastener Standards Committee prior to their introduction.

3. PERFORMANCE TESTING

(Only for initial design approval and as a referee test in cases of dispute)

3.1 CROSS THREADING TEST

The screw must be initially misaligned with the center-line of the test nut thread by 5° +/- 1° and when assembly is attempted using a 20 +/- 1 N end load the screw must not cross thread. The tendency towards self-alignment must not be prevented.

3.2 DRIVE TEST

The screw must be driven into the test nut with 20 +/- 1 N axial load until a minimum of 3 full form threads of the test screw protrude through the nut.

The torque required to drive the screw (paint clearing torque) must be measured and must not exceed the values specified in Table 1.

4. TEST PIECES

Test pieces must be ISO metric nuts or tapped holes with a 6H tolerance.

Thread length must be 0.6D to 0.8D where D is the nominal diameter of the screw to be tested.

The test piece must be grey electrocoated 25 to 30 micrometers thickness in accordance with WSK-M64J29-C1-C3 and baked at 175 °C min. followed by primer surfacer 20 to 30 micrometers thickness in accordance with WSK-M6J160-A1 baked at 165 °C min., and enamel paint 40 to 50 micrometers thickness in accordance with WSK-M50J111-A baked at 130 °C min.

- Baking time must be 10 minutes minimum, with the metal at heat, for each process.
- Thickness must be measured on a flat surface of the test piece.
- The test pieces must be coated in the horizontal position (See Figure 1).

Figure 1 - Axis of the Thread

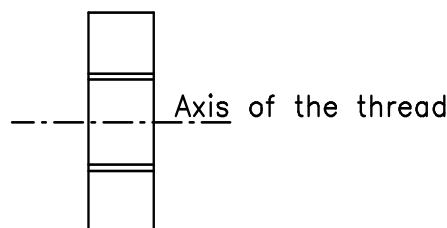


Table 1 - Paint Clearing Torque

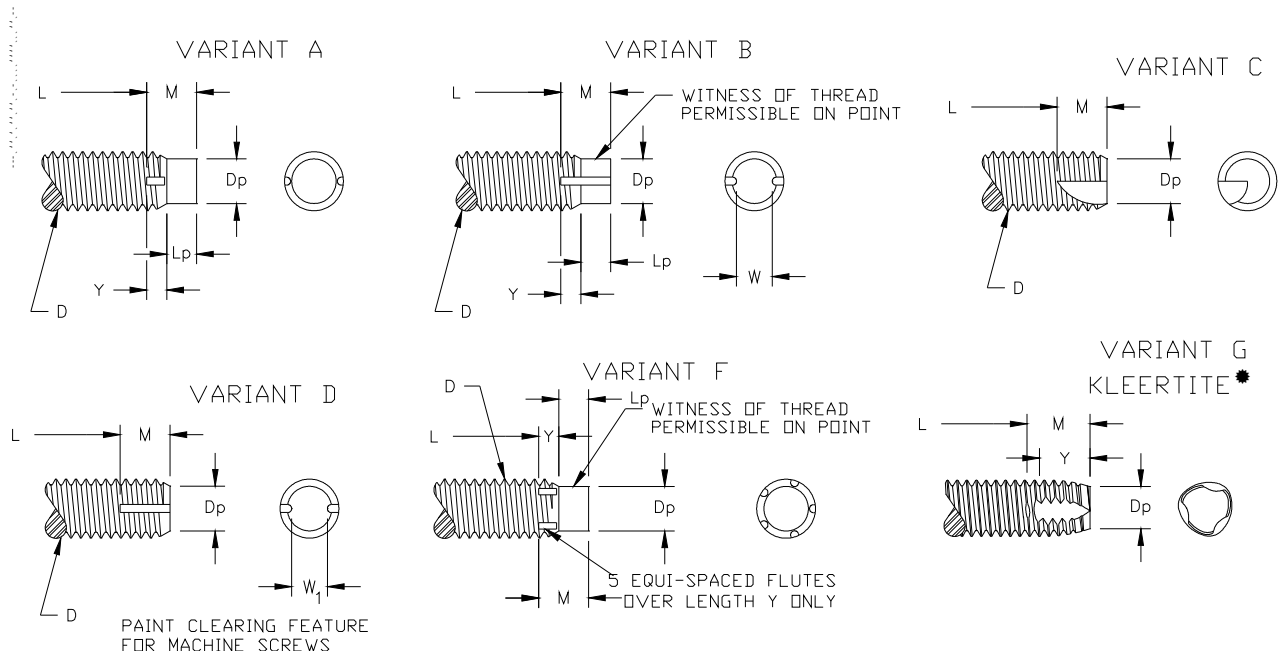
Nominal Size	M4	M5	M6	M8	M10	M12	M14
Torque, max, Nm	0.6	1.1	1.9	4.3	9.1	15.7	27.0

Table 2 - Dimensions

Nominal Size	M Max	Lp	Dp Min	W, min (B only)	W min (D only)
M4	4	2.0 +/- 0.25	2.38	-	2.5
M5	7.1	2.5 +/- 0.25	3.09	3.4	3.3
M6	8.2	3.0 +/- 0.25	3.68	4.1	3.9
M8	10.5	4.0 +/- 0.30	5.28	5.8	5.5
M10	13.2	5.0 +/- 0.30	6.73	7.5	7.2
M12	14.7	6.0 +/- 0.30	8.40	9.1	-
M14	18.2	7.0 +/- 0.40	10.0	9.5	9.3

Dimension 'M' is the maximum permitted protrusion of the paint clearing feature.
 Dimension 'Y' is at the discretion of the manufacturer to meet the performance of section 3.
 Variants 'C' and 'D' may be tapered within dimensions 'M' and 'Dp'.

5. DESIGN VARIANTS.



For variant 'F' the flutes may be parallel to the axis or at an angle to the axis at the discretion of the manufacturer.

