



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

097.13 DPWH
02-23-2016

02 FEB 2016

DEPARTMENT ORDER)
NO. 32)
Series of 2016)

SUBJECT: Guidelines on the Use of Dowel Bars in Portland Cement Concrete Pavement (PCCP)

It has been observed that Implementing Offices of this Department are allowing the use of bundled dowel bars (i.e., a group of smooth round steel bars in contact with each other, usually tied or fastened together) in transverse (contraction/weakened plane, construction, and expansion) joints of PCCP. This practice is inappropriate because it defeats the functional purpose of dowels as load transfer device. Hence, for common understanding on the use of dowel bars in PCCP, the following guidelines are hereby prescribed:

1. All transverse joints shall be provided with dowel bars in accordance with Department Order 40, series of 2014, *re: Prescribing Minimum Design Standard for Portland Cement Concrete Pavement (PCCP) in Arterial and Secondary National Roads and Access Roads Leading to Ports* as stated below:

Table 1.1

SPACING OF DOWEL BARS (Diameter=36mm / Length=600mm)	
SLAB DEPTH, T (mm)	SPACING, S (mm)
280	300
290	295
300	274
310	255
320	238
330	223
340	209

2. In case the required diameter of 36mm as cited above is not commercially available, smaller dowel bar can be used with adjustment in bar spacing as shown in Table 1.2.

Table 1.2

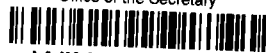
As Per D.O. 40, s. 2014			SUBSTITUTE	
Thickness of PCCP (mm)	Size of Dowel Bar (mm)	Spacing (mm)	Size of Dowel Bar (mm)	Spacing (mm)
280	36	300	32	250
			28	190
			25	150

As Per D.O. 40, s. 2014			SUBSTITUTE	
Thickness of PCCP (mm)	Size of Dowel Bar (mm)	Spacing (mm)	Size of Dowel Bar (mm)	Spacing (mm)
290	36	295	32	230
			28	170
			25	140
300	36	274	32	210
			28	160
			25	130
310	36	255	32	200
			28	150
			25	120
320	36	238	32	190
			28	140
			25	110
330	36	223	32	180
			28	130
			25	110
340	36	209	32	170
			28	130
			25	100

This Order shall take effect immediately.


ROGELIO L. SINGSON
 Secretary

Department of Public Works and Highways
 Office of the Secretary



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5.1 DLB/DBP