TO:

Director,
Preliminary Plan Review Bureau

SUPERSEDED BY EB 82-018 EFFECTIVE 4/26/82

ENGINEERING INSTRUCTION

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUBJECT: APPROVED LIST - BITUMINOUS CONCRETE VIBRATORY COMPACTION EQUIPMENT

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APPROVED: Wm. P. Hofmann
Deputy Chief Engineer, Technical Services Division

The following vibratory rollers are approved and are in conformance with the requirements of the New York State Department of Transportation Specifications pertaining to vibratory compaction of bituminous concrete pavements.

These approved vibratory rollers shall be operated at these prescribed amplitude-frequency settings.

FREQUENCY AND AMPLITUDE TABLE

A Not Acceptable (N/A) listed in any frequency column indicates that no acceptable frequency-amplitude combination exists at that amplitude setting and the equipment shall not be used to compact that pavement thickness at that particular amplitude. Acceptable pavement compaction will not be obtained.

Within the amplitude-frequency table, a frequency range is given. Vibratory rollers should, under normal circumstances, be operated at or as close as possible to the mid-range of these frequency values.

When placing pavement courses of varying thickness an amplitude-frequency combination should be chosen that best fits the acceptable range of frequency settings for the varying thickness of mat.

In general, for vibratory rollers with variable amplitudes, it is recommended that the higher amplitude settings should be used on thick lift, three inches or greater, and the lower amplitude settings be used on thinner lifts.

All specification requirements listed under 401-3.06 Rollers and 401-3.12 Compaction in the Standard Specifications must be strictly enforced in order to obtain satisfactory pavement compaction. Of primary importance is the 2.5 mph maximum speed requirement, which is controlled by an approved, speed control device on the roller. The calibration of the speed control device on each roller should be checked and adjusted (if required) on each project.

In addition to these requirements, the initial roller passes (breakdown rolling) shall be made in the vibrating mode in order to obtain satisfactory pavement compaction.

Rollers appearing on this approved list have been evaluated and have demonstrated that they are capable of meeting the specification requirements for vibratory rollers. However, it is imperative that these rollers be checked on each project to insure that the equipement is in proper working order. Rollers not in proper working order are incapable

of adequately compacting the pavement and shall be rejected.

Rollers evaluated and approved in the interim of the updating of this list must be accompanied with a letter of approval listing the acceptable frequency and amplitude settings.

APPROVED LIST

A. Pneumatic Drive Wheel Vibratory Rollers*

Manufacturer/Model	Amplitude Setting	Allowable Operating Frequency Nominal Compacted Pavement Thickness				
		≤ 1"	1 1/2"	2"	2 1/2"	≥ 4"
BROS/SPV-735-VA	1/4	N/A	N/A	N/A	N/A	N/A
	1/2	1500-1750	1700-1750	N/A	N/A	N/A
	3/4	N/A	1500-1650	1500-1750	1550-1750	1700-1750
	Full	N/A	N/A	N/A	N/A	1500-1750
DYNAPAC/CA-25A	Low	1850-2250	2050-2400	2200-2400	2350-2400	N/A
	High	N/A	N/A	1700-1800	1700-1900	1800-2200
**GALION/VOS-84 (Built prior to March 1980)	Fixed	1500	1500	1500-1550	1500-1600	1500-1800
**GALION/VOS-84A (Built prior to March 1980)	Low	1850-2250	2100-2300	2200-2300	N/A	N/A
	High	N/A	1500-1750	1600-1850	1700-1950	1850-2250
**GALION/VOS-A84A (Built after 12/21/79)	Low	1850-2250	2100-2300	2200-2300	N/A	N/A
	High	N/A	1500-1750	1600-1850	1700-1950	1850-2250
HYSTER/C625B	1	N/A	N/A	N/A	N/A	N/A
	2	2000-2300	2200-2400	2300-2400	N/A	N/A
	3	1650-1800	N/A	N/A	N/A	N/A
	4	N/A	1600-1800	1700-1800	1800	1800
HYSTER/C627B	1	N/A	N/A	N/A	N/A	N/A
	2	2000-2300	2200-2400	2300-2400	N/A	N/A
	3	1650-1800	N/A	N/A	N/A	N/A
	4	N/A	1600-1800	1700-1800	1800	1800
INGERSOLL-RAND/ SPA-54	Fixed	1500-1800	1700-2000	1800-2100	1950-2200	2100-2250
KOEHRING-BOMAG/ BW-210A	1/4	1550-1900	1750-2000	1900-2000	N/A	N/A
	1/2	1500-1600	1500-1750	1600-1850	1700-1950	1850-2000
	3/4	N/A	N/A	1500-1650	1550-1750	1700-2000
	Full	N/A	N/A	N/A	1500-1600	1550-1900

*If approved by the Engineer, steel drive wheels may be substituted for pneumatic drive wheels when used to compact top course bituminous pavement.

**These Galion rollers built prior to March 1980 use VOS-84 and VOS-84A nomenclature. Galion models built as of 12/21/79 use VOS-A84A nomenclature for both the fixed and dual amplitude rollers. Only the dual amplitude VOS-A84A roller is approved.

Approved List (cont.)

A. Pneumatic Drive Wheel Vibratory Rollers* (cont.)

Manufacturer/Model	Amplitude Setting	Allowable Operating Frequency Nominal Compacted Pavement Thickness ≤ 1"	1 1/2"	2"	2 1/2"	≥ 4"
RAGO/404B	Low	1700-2000	1850-2200	2000-2300	2100-2300	N/A
	High	N/A	N/A	1500-1700	1550-1750	1700-2050
REX/SP-900	Fixed	1500-1550	1500-1700	1550-1800	1650-1900	1800-2000
TAMPO/RS-28A	Low	1700-2000	1950-2000	N/A	N/A	N/A
	Medium	N/A	1500-1550	1500-1600	1500-1700	1600-1700
	High	N/A	N/A	N/A	N/A	N/A
TAMPO/RS-288A	Low	1700-2000	1950-2000	N/A	N/A	N/A
	Medium	N/A	1500-1550	1500-1600	1500-1700	1600-1700
	High	N/A	N/A	N/A	N/A	N/A

B. Dual Drum Vibratory Rollers

BROS/VM278	Low	2400	2400	N/A	N/A	N/A
	High	N/A	N/A	2400	2400	2400
DYNAPAC/CC42A	Low	2400	2400	2400	N/A	N/A
	High	N/A	N/A	N/A	2400	2400
DYNPAC/CC50A	Low	2400	2400	2400	2400	N/A
	High	N/A	N/A	N/A	N/A	2400
GALION/VOS-2-66A	Low	N/A	N/A	N/A	N/A	N/A
	Med-Low	2050-2400	2300-2400	N/A	N/A	N/A
	Medium	1750-2100	2000-2350	2100-2400	2250-2400	N/A
	Med-High	1600-2350	1750-2050	1900-2200	2000-2300	2200-2400
	High	N/A	N/A	1750-2000	1850-2100	2000-2400
HYSTER/C727A	Low	1900-2400	2150-2400	N/A	N/A	N/A
	High	N/A	N/A	1650-1950	1750-2050	1950-2400
INGERSOLL-RAND/DA50	Low	2200-2400	N/A	N/A	N/A	N/A
	2	1850-2300	2100-2400	N/A	N/A	N/A
	3	1650-2000	1850-2250	2000-2400	2150-2400	N/A
	High	N/A	1700-2050	1850-2150	1950-2250	2150-2400
KOEHRING BOMAG/ BW 140AD	1/2	N/A	N/A	N/A	N/A	N/A
	5/8	3050-3600	N/A	N/A	N/A	N/A
	3/4	2800-3350	3100-3600	N/A	N/A	N/A
	Full	2400-2900	2700-3150	2850-3300	3050-3450	3300-3600

Approved List (cont.)

B. Dual Drum Vibratory Rollers (cont.)

Manufacturer/Model	Amplitude Setting	Allowable Operating Frequency Nominal Compacted Pavement Thickness				
		≷ 1"	1 1/2"	2"	2 1/2"	≯ 4"
KOEHRING BOMAG/ BW220	Min.	N/A	N/A	N/A	N/A	N/A
	1/4	N/A	N/A	N/A	N/A	N/A
	1/2	1950-2400	N/A	N/A	N/A	N/A
	3/4	1650-2050	1900-2300	2050-2400	N/A	N/A
	Max.	N/A	1650-2000	1800-2100	1900-2200	2100-2400
RAYGO/2-66	Low	1650-2000	1850-2250	2000-2300	2150-2300	2300
	High	N/A	N/A	1500-1700	1600-1700	1700
RAYGO/2-84	Low	1500-1800	1650-2000	1800-2150	1950-2250	2300
	High	N/A	N/A	N/A	1500-1650	1600-1700
RAYGO/6604-A	Low	1550-1950	1800-2200	1950-2300	2100-2300	N/A
	High	N/A	N/A	1500-1700	1550-1700	1700
REX/SP1100	1 (High)	N/A	1700-2050	1850-2150	2000-2250	2200-2400
	2	N/A	1750-2100	1900-2200	2000-2300	N/A
	3	1650-2000	1850-2250	2000-2350	N/A	N/A
	4	1850-2250	2100-2400	N/A	N/A	N/A
	5	N/A	N/A	N/A	N/A	N/A
	6 (Low)	N/A	N/A	N/A	N/A	N/A
TAMPO/RS166A	Low	N/A	N/A	N/A	N/A	N/A
	Medium	1900-2350	2150-2400	N/A	N/A	N/A
	High	1700-2050	1900-2300	2050-2400	2200-2400	2400
TAMPO/RS188A	Low	1600-2050	1850-2200	N/A	N/A	N/A
	Medium	1500-1700	1550-1950	1700-2050	1850-2150	N/A
	High	N/A	N/A	1500-1800	1650-1950	1850-2200