



Investigation Of The Influence Of The Characteristics Of Dynamic Action On The Amount Of Deflections Of Non-Rigid Road Pavements

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ABSTRACT

This article presents the primary results of the study, a comparison of the results and their influence on the characteristics of the dynamic impact on the amount of deflections of non-rigid road pavements.

KEYWORDS

Dynamic installation DINA 3, dynamic loading installation UDC - 2, static loading installation Microdyn.

INTRODUCTION

In the 2020 academic year, together with the recommendations of the Department of Survey and Design of Roads to determine the strength of non-rigid road pavements as part of the universal diagnostic complex of the dynamic loading installation, "Dina-3M" (Fig. 1) The results were taken (table 1).

Measurements of deflections using acceleration sensors have shown that under the dynamic action of a punch, the resulting acceleration of the coating can be ten or more times higher than the acceleration due to gravity. [1,2]

Weight of the load (P), Kg	Shoulder height (H), cm	Static deflection of the shock absorber, cm	Dynamic deflection of the shock absorber, cm	Pulse duration (t), ms	Average effort (Fcp), T	Maximum effort (Fmax), t
25	1	132	0.00301	0.894	7.0	7.3
25	2	132	0.00549	1.093	8.5	6.5
25	3	132	0.00539	1.305	10.1	5.1
25	3	132	0.00539	1.305	10.1	5.1



Fig 1. DINA-3 installation with dynamic loading devices

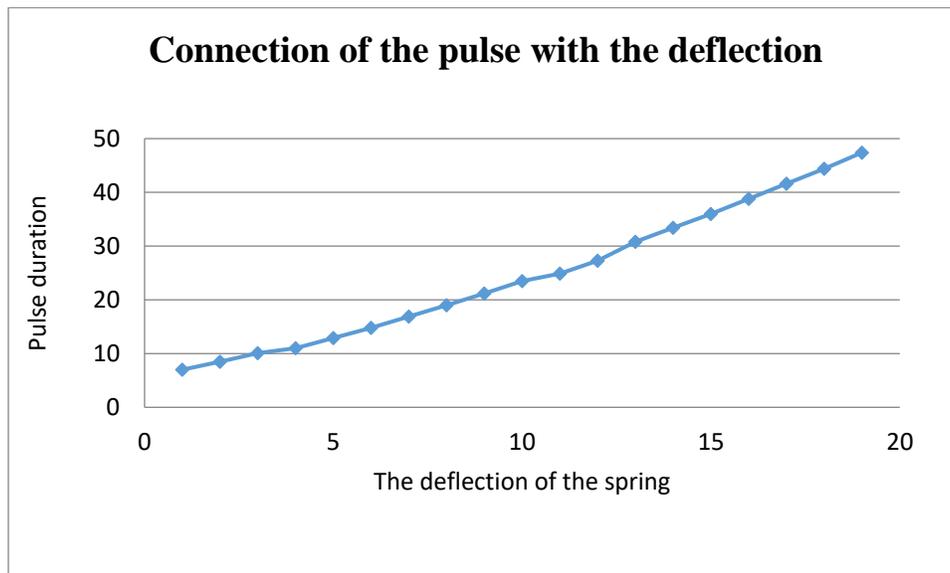
For the installation of UDC-2, the parameters of the dynamic impact at different values of the shoulder of the elastic element are given in Table 1

THE MAIN FINDINGS AND RESULTS

The results of the measurements of the road surface of the site “4P2 Tashkent city - Toytepa city - A373 avtoyuli “(55 km)

Table №2

Road section	Measuring point	The values of the fixed elastic deflections, mm (for all devices except for "Microdia")		
		Dynamics		Statics
		(UDC - 2)	(DINA 3)	(Microdin)
"4P2 Tashkent city - Toytepa city - A373 Avtoili" (55 km)	1	0.184	0.254	0.11
		0.187	0.296	0.16
		0.188	0.221	0.09
		0.181	0.278	0.232
		0.185	0.197	0.1
		0.187	0.323	0.195
		0.187	0.311	0.075
	Average Value	0.185	0.268	0.192



Graph: 1. Connection of the pulse duration with the deflection of the elastic element (UDK-2)

CONCLUSION

The conducted studies of the influence of the parameters of the dynamic impulse made it possible to determine their optimal values. It was found that at the same drop height of the load, a decrease in the pulse duration, achieved by increasing the rigidity of the elastic element, leads to a significant increase in deflection, and the dependence is described by a power function and is characterized by an error of only 1.5 ... 2%.

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