

# DIN 18126:2022-10 (E)

## Soil, investigation and testing - Determination of density of non cohesive soils for maximum and minimum compactness

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
1	Scope .....	5
2	Normative references .....	5
3	Terms and definitions.....	5
4	Designation .....	7
5	Apparatus .....	7
5.1	Vibrating table test .....	7
5.2	Two-prong impactor test.....	16
6	Particle size range covered by the test, mass and type of sample .....	16
7	Test procedure.....	18
7.1	Sample preparation.....	18
7.2	Test sequence .....	18
7.3	Determining maximum density.....	18
7.3.1	Selecting the test method .....	18
7.3.2	Vibrating the sample on the vibrating table.....	18
7.3.3	Vibrating the sample with the two-prong impactor .....	18
7.4	Determining minimum density .....	19
7.4.1	Selection of the test cylinder .....	19
7.4.2	Selecting the test method .....	19
7.4.3	Introducing the sample through a funnel.....	19
7.4.4	Introducing the sample by means a of a long-handled scoop or hand scoop.....	19
8	Evaluation.....	20
8.1	Maximum density.....	20
8.2	Minimum density .....	20
8.3	Derived quantities .....	20
9	Expression of results.....	21
Annex A (informative)	Application examples.....	22
A.1	EXAMPLE 1 — Test DIN 18126-250 .....	22
A.2	EXAMPLE 2 — Test DIN 18126-71 .....	24
Bibliography .....		27

## Figures

Figure 1 — Loading plunger with spring and weight for the vibrating table test for determining the maximum density.....	9
Figure 2 — Loading plunger .....	10
Figure 3 — Weight holder .....	10
Figure 4 — Guide rod.....	11

<b>Figure 5 — Funnel with device for centric lifting of the funnel to determine the minimum density</b>	<b>12</b>
<b>Figure 6 — Long-handled scoop</b>	<b>13</b>
<b>Figure 7 — Hand scoop</b>	<b>13</b>
<b>Figure 8 — Test cylinder with filter plate and extraction device for determining maximum density by the two-prong impactor test</b>	<b>14</b>
<b>Figure 9 — Two-prong impactor</b>	<b>15</b>
<b>Figure 10 — End plate for test cylinder as in Figure 8</b>	<b>15</b>
<b>Figure 11 — Test cylinder for two-prong impactor test for determining minimum density</b>	<b>16</b>

## **Tables**

<b>Table 1 — Elements of the standard designation</b>	<b>7</b>
<b>Table 2 — Dimensions for Figure 1 to Figure 4</b>	<b>8</b>
<b>Table 3 — Maximum permissible particle size and required sample mass as a function of the test cylinder diameter</b>	<b>17</b>
<b>Tabelle A.1 — Determining the dry density based on three tests of the maximum density</b>	<b>23</b>
<b>Tabelle A.2 — Example of dry mass and dry density based on three tests of the minimum density</b>	<b>23</b>
<b>Tabelle A.3 — Example of dry mass and dry density based on three tests of the minimum density</b>	<b>24</b>