INTERNATIONAL STANDARD ISO 17123-4

Optics and optical instruments – Field procedures for testing geodetic and surveying instruments

Part 4: Electro-optical distance meters (EDM instruments)

**Full test procedure**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| --- |
|   |
| d1,2= | d1,3= | d1,4= | d1,5= |
|  | d2,3= | d2,4= | d2,5= |
|  |  | d3,4= | d3,5= |
|  |  |  | d4,5= |
|  |  |  |  |
|  |  |  |  |

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| --- | --- | --- | --- |
| a3= d1,4+ d2,5- d1,3- d2,4- d3,57= |  | b1=(d1,2+d1,3+d1,4+d1,5)/5= |  |
| a4= d1,5- d1,2- d2,3- d3,4- d4,5= |  | b2=(d2,3+d2,4+d2,5-d1,2)/5= |  |
|  |  | b3=(d3,4+d3,5-d1,3-d2,3)/5= |  |
|  | b4=(d4,5-d1,4-d2,4-d3,4)/5= |  |
|  | b5=(-d1,5-d2,5-d3,5-d4,5)/5 = |  |

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| r1,2= b1-b2-5δ/7-d1,2 | r1,3= b1-b3-3δ/7-d1,3 | r1,4= b1-b4-δ/7-d1,4 | r1,5= b1-b5+δ/7-d1,5 |
|  |  |  |  |
|  | r2,3=b2-b3-5δ/7-d2,3 | r2,4=b2-b4-3δ/7-d2,4 | r2,5=b2-b5- δ/7-d2,5 |
|  |  |  |
|  |  | r3,4=b3-b4-5δ/7-d3,4 | r3,5=b3-b5-3δ/7-d3,5 |
|  |  |
|  |  |  | r4,5=b4-b5-5δ/7-d4,5 |
|  |

 |
| $\sum\_{}^{}r^{2}=r\_{1,2}^{2}+r\_{1,3}^{2}+r\_{1,4}^{2}+r\_{1,5}^{2}+r\_{1,6}^{2}+r\_{1,7}^{2}+r\_{2,3}^{2}+r\_{2,4}^{2}+r\_{2,5}^{2}+r\_{2,6}^{2}+r\_{2,7}^{2}+r\_{3,4}^{2}+r\_{3,5}^{2}+\_{3,6}^{2}+r\_{3,7}^{2}+r\_{4,5}^{2}+r\_{4,6}^{2}+r\_{4,7}^{2}+r\_{5,6}^{2}+r\_{5,7}^{2}+r\_{6,7}^{2}=$  |
| ν=n-u=10-5=5 |  |