

# DIN EN ISO 16610-31:2025-08 (E)

## Geometrical product specifications (GPS) - Filtration - Part 31: Robust profile filters: Gaussian regression filters (ISO 16610-31:2025)

---

<b>Contents</b>		<b>Page</b>
Foreword.....		iv
Introduction.....		v
<b>1</b>	<b>Scope</b> .....	<b>1</b>
<b>2</b>	<b>Normative references</b> .....	<b>1</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>1</b>
<b>4</b>	<b>Characteristics of the robust Gaussian regression filter for open profiles</b> .....	<b>4</b>
4.1	General.....	4
4.2	Filter equations.....	4
4.2.1	Determination of the large-scale lateral component.....	4
4.2.2	Determination of the small-scale lateral component.....	5
4.3	Transmission characteristics.....	5
<b>5</b>	<b>Characteristics of the robust Gaussian regression filter for closed profiles</b> .....	<b>6</b>
5.1	General.....	6
5.2	Filter equations.....	6
5.2.1	Determination of the large-scale lateral component.....	6
5.2.2	Determination of the small-scale lateral component.....	7
5.3	Transmission characteristics.....	7
<b>6</b>	<b>Series of nesting index values</b> .....	<b>8</b>
<b>7</b>	<b>Regression degree, <math>p</math></b> .....	<b>8</b>
<b>8</b>	<b>Iterative solution</b> .....	<b>8</b>
<b>9</b>	<b>Filter designation</b> .....	<b>9</b>
<b>Annex A</b> (informative)	<b>Linear Gaussian regression filter for unbounded open profiles</b> .....	<b>10</b>
<b>Annex B</b> (informative)	<b>Examples for the application of the robust Gaussian regression filter</b> .....	<b>13</b>
<b>Annex C</b> (informative)	<b>Relationship to the filtration matrix model</b> .....	<b>20</b>
<b>Annex D</b> (informative)	<b>Relationship to the GPS matrix model</b> .....	<b>21</b>
<b>Bibliography</b> .....		<b>22</b>