

# ISO 22343-2:2023-09 (E)

## Security and resilience - Vehicle security barriers - Part 2: Application

---

<b>Contents</b>		<b>Page</b>
	<b>Foreword</b> .....	<b>vi</b>
<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>2</b>
<b>4</b>	<b>Introduction to hostile vehicle mitigation</b> .....	<b>2</b>
4.1	General.....	2
4.1.1	Vehicle-borne threats.....	2
4.1.2	Mitigation of vehicle-borne threats.....	2
4.2	Selection of a VSB.....	4
<b>5</b>	<b>The threat</b> .....	<b>4</b>
5.1	Identify and quantify the threat.....	4
5.2	Deployment considerations.....	5
5.2.1	General.....	5
5.2.2	Installation.....	5
<b>6</b>	<b>Assets</b> .....	<b>6</b>
6.1	Identification of the critical assets.....	6
6.2	Identification of interested parties.....	6
6.3	Consequence evaluation.....	6
<b>7</b>	<b>Site assessment</b> .....	<b>6</b>
7.1	New locations.....	6
7.2	Review of existing security arrangements.....	7
7.3	Site survey.....	7
7.4	Traffic survey.....	8
7.5	Civil works.....	8
7.5.1	Variations between VSB performance under vehicle impact test conditions and site conditions.....	8
7.5.2	Ground types.....	9
7.5.3	Foundations.....	9
7.5.4	Surface-placed VSB.....	10
<b>8</b>	<b>Site design</b> .....	<b>10</b>
8.1	Traffic management.....	10
8.2	Aesthetics.....	12
<b>9</b>	<b>VSB performance</b> .....	<b>12</b>
9.1	Impact performance.....	12
9.2	Vehicle speed.....	12
9.2.1	General.....	12
9.2.2	Vehicle dynamics assessment.....	13
9.2.3	Road layout.....	13
9.2.4	Speed reduction features.....	13
9.3	Impact angle.....	13
9.4	Vehicle penetration distance and major debris distance/coordinates.....	13
9.4.1	Vehicle penetration distance.....	13
9.4.2	Major debris distance/coordinates.....	13
9.4.3	Stand-off distance.....	14
9.5	Operational performance.....	14

9.5.1	Vehicle access control	14
9.5.2	Speed of legitimate access	15
9.5.3	Power requirement	15
9.5.4	Environmental conditions	15
9.5.5	Design criteria	16
9.6	VSB integrity	16
9.6.1	VSB damage	16
9.6.2	Remote access to automatic access control system	16
9.6.3	Repairs	17
9.6.4	Staff, skills and availability	17
9.7	Design method	18
<b>10</b>	<b>Procurement strategy</b>	<b>18</b>
10.1	General	18
10.2	Availability and maintenance of the VSB	18
10.3	Quality	18
10.4	Cost	18
10.5	Commissioning and handover	19
<b>11</b>	<b>Deployment and removal</b>	<b>20</b>
11.1	Highway/local authority approval	20
11.2	Logistics of deployment	20
11.3	Installation	20
11.4	Lifting and placement	20
11.5	Removal considerations	21
<b>12</b>	<b>Types of VSB</b>	<b>21</b>
12.1	General	21
12.2	Passive VSBs	21
12.3	Active VSBs	21
12.4	Foundation type	22
12.5	Foundations and layout	23
12.6	Examples of VSBs — Bollards	24
12.6.1	General	24
12.6.2	Fixed bollards	24
12.6.3	Active bollards	24
12.7	Examples of VSBs — Road blockers	25
12.8	Examples of VSBs — Rising arm barriers	25
12.8.1	General	25
12.8.2	Layout	26
12.9	Examples of VSBs — Sliding and swing gates	26
12.9.1	General	26
12.9.2	Foundations	26
12.9.3	Layout	26
12.10	Examples of VSBs — Street furniture	27
12.10.1	General	27
12.10.2	Foundations	27
12.11	Examples of VSBs — Manually deployable (portable)	28
<b>13</b>	<b>Vehicle access control points</b>	<b>28</b>
13.1	General	28
13.2	Layout of active VSBs at VACPs	30
13.2.1	General	30
13.2.2	Single line of VSBs	30
13.2.3	Interlocked VSBs	31
13.2.4	Final denial VSB	32
13.2.5	Traffic throughput	33
13.3	Safety issues	34
13.4	Control system	35
<b>14</b>	<b>Training</b>	<b>36</b>
<b>15</b>	<b>Maintenance, service and inspection</b>	<b>36</b>
15.1	General	36
15.2	Adjacent works	37
<b>16</b>	<b>Operational requirements</b>	<b>37</b>
16.1	General	37

16.2	Level 1 OR.....	37
16.3	Level 2 OR.....	37
16.4	Level 2 OR proforma.....	39
<b>Annex A (informative) Level 2 operational requirement proforma.....</b>		<b>40</b>
<b>Annex B (informative) Design method.....</b>		<b>56</b>
<b>Annex C (informative) Modifications to the VSB.....</b>		<b>60</b>
<b>Annex D (informative) VSB compliance sign off.....</b>		<b>61</b>
<b>Bibliography.....</b>		<b>63</b>