

# DIN 18216:2021-02 (E)

## Formwork ties; requirements, testing, use

---

<b>Contents</b>	<b>Page</b>
Foreword .....	3
<b>1 Scope .....</b>	<b>4</b>
<b>2 Normative references .....</b>	<b>4</b>
<b>3 Terms and definitions.....</b>	<b>4</b>
<b>4 Materials .....</b>	<b>5</b>
<b>4.1 General .....</b>	<b>5</b>
<b>4.1.1 Selection of materials .....</b>	<b>5</b>
<b>4.1.2 Characteristic values.....</b>	<b>6</b>
<b>4.2 Ductility requirements .....</b>	<b>6</b>
<b>4.2.1 Steel .....</b>	<b>6</b>
<b>4.2.2 Steel castings .....</b>	<b>6</b>
<b>4.2.3 Spheroidal graphite cast iron and malleable cast iron .....</b>	<b>6</b>
<b>4.3 Inspection documents.....</b>	<b>6</b>
<b>4.3.1 Steel .....</b>	<b>6</b>
<b>4.3.2 Casting materials.....</b>	<b>6</b>
<b>5 Requirements on the design.....</b>	<b>7</b>
<b>6 Component testing.....</b>	<b>7</b>
<b>6.1 General and test pieces.....</b>	<b>7</b>
<b>6.2 Test method A.....</b>	<b>8</b>
<b>6.2.1 General .....</b>	<b>8</b>
<b>6.2.2 Load capacity of the tie rod .....</b>	<b>8</b>
<b>6.2.3 Dimensional checks and material testing .....</b>	<b>9</b>
<b>6.2.4 Testing the complete formwork tie.....</b>	<b>9</b>
<b>6.2.5 Checking the thread connection .....</b>	<b>12</b>
<b>6.2.6 Analysis of the tie lock.....</b>	<b>13</b>
<b>6.3 Test method B.....</b>	<b>14</b>
<b>6.4 Testing individual tie plates .....</b>	<b>17</b>
<b>6.5 Testing of individual tie locks on the tie rod.....</b>	<b>18</b>
<b>6.6 Testing of tie rod connections.....</b>	<b>19</b>
<b>6.7 Documentation of component testing .....</b>	<b>20</b>
<b>6.7.1 Test report.....</b>	<b>20</b>
<b>6.7.2 Information on the formwork tie components.....</b>	<b>20</b>
<b>7 Quality assurance during manufacturing.....</b>	<b>21</b>
<b>8 Marking .....</b>	<b>21</b>
<b>8.1 General .....</b>	<b>21</b>
<b>8.2 Tie rod.....</b>	<b>22</b>
<b>8.3 Tie lock and tie rod connections .....</b>	<b>22</b>
<b>8.4 Tie plates.....</b>	<b>22</b>
<b>9 Use.....</b>	<b>22</b>
<b>Annex A (normative) Quality assurance tests .....</b>	<b>23</b>
<b>Bibliography .....</b>	<b>24</b>