

## 8485 Level 2 Certificate in Forgework

### Marking criteria

Please note: Section sizes mentioned in the Forging Exercise Booklet must be adhered to.

<b>1</b>	<b>Forging to Section</b>	
	<p><b>a. Flat</b>            Forged section must be at least 8" (200mm) long            Thickness/width is consistent along the length            Bar is straight and oblong            Sides are at right angles to each other            Section should be free from major hammer marks/deformation  <b>To standard (5/5)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	<p><b>b. Square</b>            Forged section must be at least 8" (200mm) long            Thickness/width are equal and consistent along the length            Bar is straight and square            Sides are at right angles to each other            Section should be free from major hammer marks/deformation  <b>To standard (5/5)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	<p><b>c. Round</b>            Forged section must be at least 8" (200mm) long            Section must be consistent along the length            Bar is straight and round            Section should be free from major hammer marks/deformation  <b>To standard (4/4)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>2</b>	<b>Forging points</b>	
	<p><b>a. Chisel</b>            Points must be evenly tapered            Points are centred on the bar            Each point should have a clear transition from the stock size starting at the 75mm (<math>\pm 4</math>mm) mark from the back end            Sides of the chisel point are right angles to each other            The 5/8" (16mm) width is kept all the way to the point (<math>\pm 1</math>mm)            Section should be free from major hammer marks/deformation  <b>To standard (6/6)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

	<p><b>b. Square</b></p> <p>Points are centred on the bar</p> <p>Each point should have a clear transition from the stock size starting at the 75mm (<math>\pm 4</math>mm) mark from the back end</p> <p>Square point is evenly tapered on all four sides</p> <p>Sides are at right angles to each other</p> <p>Section should be free from major hammer marks/deformation</p> <p>To standard <b>(5/5)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	<p><b>c. Round</b></p> <p>Point must be evenly tapered</p> <p>Point is centred on the bar</p> <p>Each point should have a clear and level transition</p> <p>Piece should be fully round at the 75mm (<math>\pm 4</math>mm) mark from the back end</p> <p>Section should be free from major hammer marks/deformation</p> <p>To standard <b>(5/5)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	<p><b>d. Diamond</b></p> <p>Point must be evenly tapered on all four sides</p> <p>Points are centred on the bar</p> <p>Each point should have a clear transition from the stock size starting at the 75mm (<math>\pm 4</math>mm) mark from the back end</p> <p>Transition point of the diamond is level with the punch mark</p> <p>Corner of the Diamond point is centred on the middle of the flat side of the 16mm square stock</p> <p>Section should be free from major hammer marks/deformation</p> <p>To standard <b>(6/6)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>3.</b>	<b>Staple – Flat</b>	
	<p>Staple should be level and well balanced</p> <p>Outside edges of the legs should be parallel</p> <p>Bend should be even about the centre mark</p> <p>No change of thickness of section towards the points</p> <p>Points 60-65 mm long (<math>\pm 2</math>mm)</p> <p>Points section 90° corners</p> <p>Section should be free from major hammer marks/deformation</p> <p>Overall width must be 70 mm (<math>\pm 4</math>mm)</p> <p>To standard <b>(8/8)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>4</b>	<b>Unwelded eye – round</b>	
	<p>Eye must be circular and level</p> <p>Little evidence of hammer marks or distortion of the section</p> <p>Straight bar projects through centre of eye</p> <p>Tail end must meet the centre mark</p> <p>To standard <b>(4/4)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>5</b>	<b>Flat ring</b>	
	<p>Ring must be circular and level</p> <p>Free from major hammer marks/deformation</p> <p>Joint forged to meet cleanly without gap (<math>\pm 2</math>mm)</p> <p>Section must be of even thickness and width throughout</p> <p>To standard <b>(4/4)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

<b>6</b>	<b>Figure of eight - round</b>	
	<p>Final piece must be level</p> <p>Circular halves must be equal and meet at the centre mark</p> <p>Centre line should bisect both circular halves</p> <p>All bends must be uniform</p> <p>Section should be free from major hammer marks/deformation</p> <p><b>To standard (5/5)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>7</b>	<b>Set eye hook</b>	
	<p>Hook must be flat</p> <p>Hang centrally from the eye 20 mm width at base of hook</p> <p>Eye must be strong</p> <p>Internal eye diameter 10mm (<math>\pm 2</math>mm)</p> <p>Eye section must be round and parallel throughout</p> <p>Minimum section thickness of the hook must be not less than (<math>\pm 1</math>mm) from starting section</p> <p>Hook section must be at 90° corners</p> <p>Section should be free from major hammer marks/deformation</p> <p><b>To standard (8/8)</b></p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>8</b>	<b>Bow shackle – large- set eye</b>	
	<p>Bow must be shaped into a well balanced circular, symmetrical form</p> <p>Centre line should bisect the eyes and bow</p> <p>Eyes to be 90° to the bow section</p> <p>Internal eye diameter to accommodate 10mm round bar (<math>\pm 2</math>mm)</p> <p>Eyes parallel and spaced 3/4" (20mm) apart (<math>\pm 5</math>mm)</p> <p>Bow to be level</p> <p>Section should be free from major hammer marks/deformation</p> <p><b>To standard (7/7)</b></p> <p>NB: Eyes ideally should be turned in the same direction but candidates should not be penalised if not)</p>	
<b>9</b>	<b>Tie bar</b>	
	<p>Whole piece must be level</p> <p>Eye must be central to the head (<math>\pm 1</math>mm)</p> <p>Eye must be 10mm diameter (<math>\pm 2</math>mm)</p> <p>Eye must be at 90° to the section</p> <p>Bar split evenly down the centre (<math>\pm 1</math>mm)</p> <p>Bar split 75mm from the end (<math>\pm 3</math>mm)</p> <p>Split ends bent to a balanced symmetrical curve</p> <p>Punched end section thickness must be 16mm (<math>\pm 2</math>mm)</p> <p>Punched end must be central to the bar (<math>\pm 1</math>mm)</p> <p>Punched end size minimum 25mm diameter</p> <p>Bar section must be maintained at 16mm (<math>\pm 1</math>mm)</p> <p>Distance between legs must be 100mm (<math>\pm 3</math>mm) at the end</p> <p>Section should be free from major hammer marks/deterioration</p> <p><b>To standard (13/13)</b></p>	

<b>10</b>	<b>Artefact (Tongs)</b>	
<b>10</b>	<p>Hinge operates without binding or sticking  Set points without galls/cracks  Nib ends minimum 6mm thick  Nib ends equal length (<math>\pm 1</math>mm)  Hinge plate minimum 6mm thick  Reins forged without sharp corners from the hinge point  Reins equal length (<math>\pm 5</math>mm)  Rivet shank to 8 to 10mm in diameter  Rivet heads forged to minimum 3mm thickness  Section should be free from major hammer marks/deformation  Fit for purpose (Jaws and reings to be set to hold pre-determined section)  <b>(To standard 11/11)</b>  (NB: tongs can be right or left handed)</p>	