

1. Title	Crane wheel pressure calculation										
2. Code	EMPEDE502A										
3. Range	Calculate the wheel pressure of various types of cranes used in general industrial plants, power plants or other places.										
4. Level	5										
5. Credits	6										
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <table border="0"> <tr> <td style="vertical-align: top;">6.1</td> <td style="vertical-align: top;">Basic theories of engineering mechanics</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>◆ Be familiar with basic concepts of engineering mechanics including:               <ul style="list-style-type: none"> <li>• Be familiar with basic mechanical concepts                   <ul style="list-style-type: none"> <li>▶ Statics</li> <li>▶ Dynamics</li> <li>▶ Kinematics</li> </ul> </li> <li>• Be familiar with the properties and basic mechanical concepts of materials including:                   <ul style="list-style-type: none"> <li>▶ Tensile, compression and torsion</li> <li>▶ Complex stress status</li> <li>▶ Bending stress and deformation</li> </ul> </li> <li>• Be familiar with the properties of structural parts including                   <ul style="list-style-type: none"> <li>▶ Stress and deformation analysis of statically structure</li> <li>▶ Calculation of statically structural displacement</li> <li>▶ Mechanical properties of structural parts</li> <li>▶ Load limit</li> </ul> </li> </ul> </li> </ul> </td> </tr> <tr> <td style="vertical-align: top;">6.2</td> <td style="vertical-align: top;">Calculation of crane wheel pressure</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>◆ Calculate the load limit of main structural parts of the crane</li> <li>◆ Calculate the wheel pressure of the crane in different conditions</li> </ul> </td> </tr> <tr> <td style="vertical-align: top;">6.3</td> <td style="vertical-align: top;">Professional analysis of crane wheel pressure</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>◆ Assess the wheel pressure on the crane in different conditions and the condition of main structural parts, and assist supervisory personnel in formulating relevant safe operation guidelines</li> </ul> </td> </tr> </table>		6.1	Basic theories of engineering mechanics	<ul style="list-style-type: none"> <li>◆ Be familiar with basic concepts of engineering mechanics including:               <ul style="list-style-type: none"> <li>• Be familiar with basic mechanical concepts                   <ul style="list-style-type: none"> <li>▶ Statics</li> <li>▶ Dynamics</li> <li>▶ Kinematics</li> </ul> </li> <li>• Be familiar with the properties and basic mechanical concepts of materials including:                   <ul style="list-style-type: none"> <li>▶ Tensile, compression and torsion</li> <li>▶ Complex stress status</li> <li>▶ Bending stress and deformation</li> </ul> </li> <li>• Be familiar with the properties of structural parts including                   <ul style="list-style-type: none"> <li>▶ Stress and deformation analysis of statically structure</li> <li>▶ Calculation of statically structural displacement</li> <li>▶ Mechanical properties of structural parts</li> <li>▶ Load limit</li> </ul> </li> </ul> </li> </ul>	6.2	Calculation of crane wheel pressure	<ul style="list-style-type: none"> <li>◆ Calculate the load limit of main structural parts of the crane</li> <li>◆ Calculate the wheel pressure of the crane in different conditions</li> </ul>	6.3	Professional analysis of crane wheel pressure	<ul style="list-style-type: none"> <li>◆ Assess the wheel pressure on the crane in different conditions and the condition of main structural parts, and assist supervisory personnel in formulating relevant safe operation guidelines</li> </ul>
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7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to calculate the wheel pressure on the crane in different conditions; and</p> <p>(ii) Capable to calculate the stress condition and load limit of structural parts.</p>										
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of mechanics.										