

1. Title	Repair high temperature and pressure valves									
2. Code	EMPERM219A									
3. Range	Perform routine repair for high temperature and pressure valves in general industrial plants, power plants or other places. "High temperature" means the materials carried by the pipes can be 100°C or above; "high pressure" means 30bar or above; and "materials" include water (or chemical liquid), steam, oils and gas.									
4. Level	2									
5. Credits	3									
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;">Construction and repairing principles for high temperature and pressure valves</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>◆ Know about the construction of high temperature and pressure valves</li> <li>◆ Know about the principles of repairing high temperature and pressure valves, including:               <ul style="list-style-type: none"> <li>• Safety precautions for work</li> <li>• Concerns for replacement of parts and repair of valve defects</li> <li>• Concerns for on-site or worksite repair</li> </ul> </li> </ul> </td> </tr> <tr> <td style="vertical-align: top;">6.2</td> <td style="vertical-align: top;">Methods and procedures of repairing high temperature and pressure valves</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>◆ Follow the correct steps to repair high temperature and pressure valves, including the following procedures:               <ul style="list-style-type: none"> <li>• Installing and removing valves</li> <li>• Isolating and washing valves</li> <li>• Repairing valve actuators</li> <li>• Shot-blasting the surface or fill the cracks outside</li> <li>• Nominal lapping of valve seat and disc</li> <li>• Applying protective coat on flange</li> <li>• Sealing and insulation</li> </ul> </li> </ul> </td> </tr> <tr> <td style="vertical-align: top;">6.3</td> <td style="vertical-align: top;">Professionalism in repairing high temperature and pressure valves</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>◆ Follow the requirements of the codes of practice and manufacturers' repair guidelines to perform repair for high temperature and pressure valves, and the repair should pass the leakage and water pressure tests</li> <li>◆ Assist competent persons to conduct pressure test according to safety procedures</li> </ul> </td> </tr> </table>	6.1	Construction and repairing principles for high temperature and pressure valves	<ul style="list-style-type: none"> <li>◆ Know about the construction of high temperature and pressure valves</li> <li>◆ Know about the principles of repairing high temperature and pressure valves, including:               <ul style="list-style-type: none"> <li>• Safety precautions for work</li> <li>• Concerns for replacement of parts and repair of valve defects</li> <li>• Concerns for on-site or worksite repair</li> </ul> </li> </ul>	6.2	Methods and procedures of repairing high temperature and pressure valves	<ul style="list-style-type: none"> <li>◆ Follow the correct steps to repair high temperature and pressure valves, including the following procedures:               <ul style="list-style-type: none"> <li>• Installing and removing valves</li> <li>• Isolating and washing valves</li> <li>• Repairing valve actuators</li> <li>• Shot-blasting the surface or fill the cracks outside</li> <li>• Nominal lapping of valve seat and disc</li> <li>• Applying protective coat on flange</li> <li>• Sealing and insulation</li> </ul> </li> </ul>	6.3	Professionalism in repairing high temperature and pressure valves	<ul style="list-style-type: none"> <li>◆ Follow the requirements of the codes of practice and manufacturers' repair guidelines to perform repair for high temperature and pressure valves, and the repair should pass the leakage and water pressure tests</li> <li>◆ Assist competent persons to conduct pressure test according to safety procedures</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 perform repair of high temperature and pressure valves under instruction and according to guidelines;</p> <p>(ii) Capable to complete repair report forms for the high temperature and pressure valves; and</p> <p>(iii) Capable to assist competent persons to conduct high temperature and pressure valve leakage test under instruction.</p>									
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic techniques of installing, removing and repairing valves.									