





Unit Wise Real Time Applications/Live Examples

Department: Mechanical Engineering Semester: I Academic Year: 2024-25

Class: TE Div: A Course: Advanced Forming & Joining Processes (302045-A)

Unit No. -Name	Real life Applications
<p align="center">UNIT 1: Mechanics of Sheet Metal Forming</p>	
<p align="center">UNIT 1: Mechanics of Sheet Metal Forming</p>	<p align="center">Applications of sheet metals</p> <ul style="list-style-type: none"> • Aircraft Bodies • Automobiles bodies • Domestic purposes • Beverage cans 



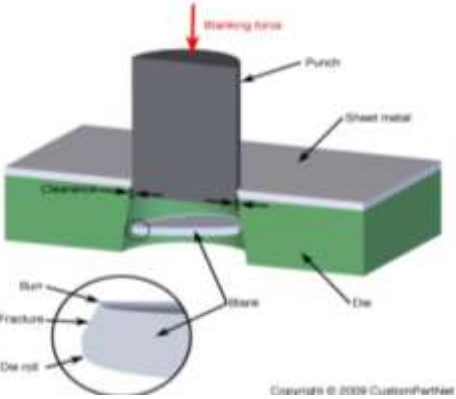




**ZEAL EDUCATION SOCIETY'S
ZEAL COLLEGE OF ENGINEERING AND RESEARCH
NARHE | PUNE -41 | INDIA**



Record No.: ZCOER-ACAD/R/16H

Revision: 00

Date:01/04/2021

Unit No. -Name	Real life Applications
<p>UNIT 1: Mechanics of Sheet Metal Forming</p>	 <p>Copyright © 2009 CustomPartNet</p>
<p>UNIT 1: Mechanics of Sheet Metal Forming</p>	<p>Perforating</p> <p>Punching a close arrangement of a large number of holes in a single operation.</p>   
<p>UNIT 1: Mechanics of Sheet Metal Forming</p>	 <p>STURMFIED LTD BIRMINGHAM</p>

Dr. H. P. Jagtap
Course faculty



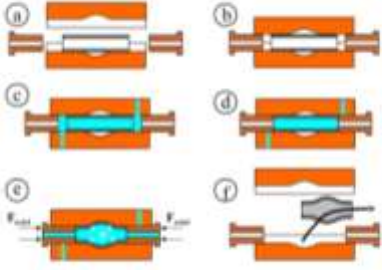

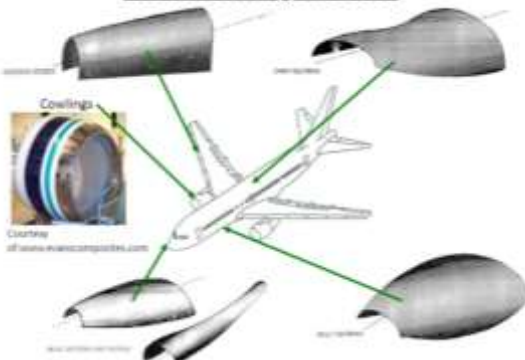
**ZEAL EDUCATION SOCIETY'S
ZEAL COLLEGE OF ENGINEERING AND RESEARCH
NARHE | PUNE -41 | INDIA**



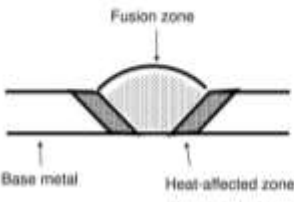
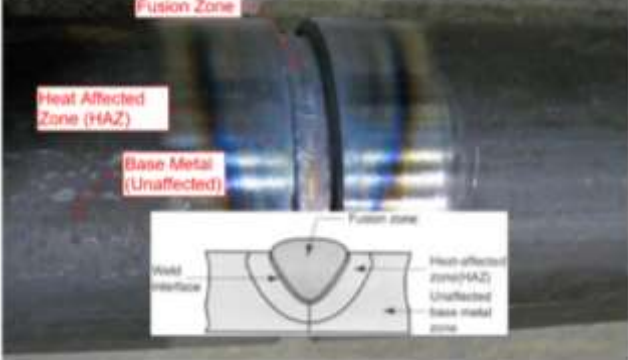

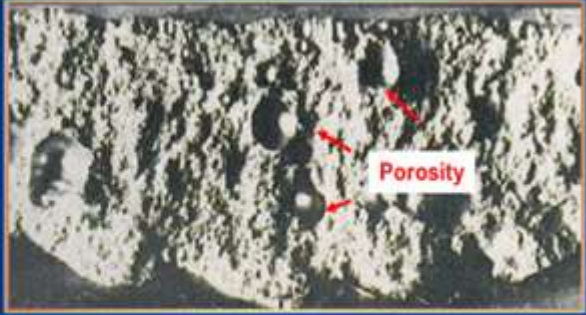
Record No.: ZCOER-ACAD/R/16H

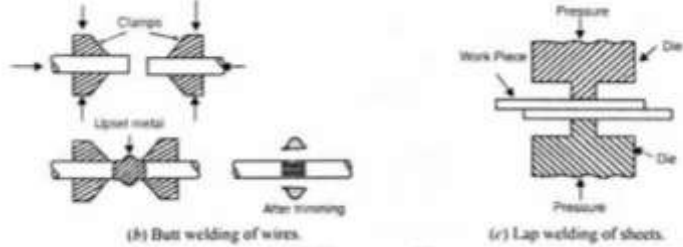
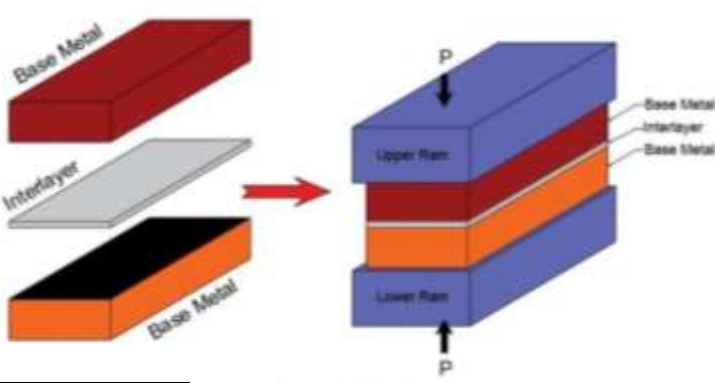
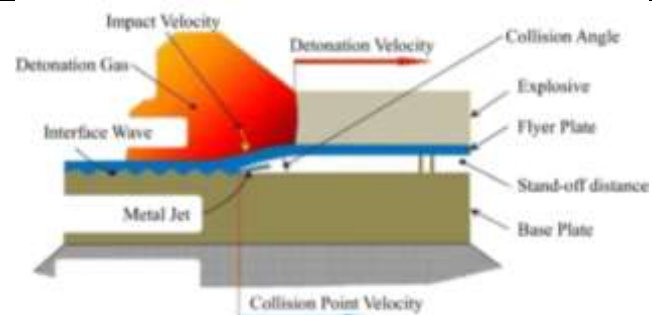
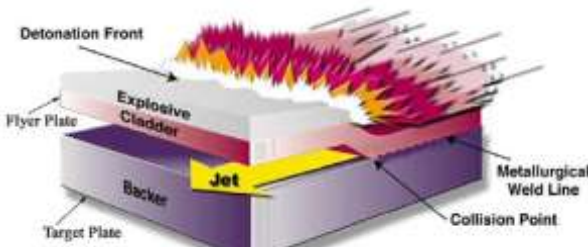
Revision: 00

Date:01/04/2021

Unit No. -Name	Real life Applications
<p align="center">UNIT 2: Special Forming Processes</p>	<p align="center">Tube Hydroforming</p> 
<p align="center">UNIT 2: Special Forming Processes</p>	<p align="center">Stretch Forming: equipment</p>  <p align="center">Stretch Forming with Reconfigurable Tool</p>
<p align="center">UNIT 2: Special Forming Processes</p>	<p align="center">Stretch Forming: Products</p> 

Dr. H. P. Jagtap
Course faculty

Unit No. -Name	Real life Applications
<p>UNIT 3: Weld Metallurgy</p>	<p align="center"><i>Basic Regions of a Weld</i></p>  <ul style="list-style-type: none"> ▪ Fusion Zone - area that is completely melted ▪ Heat-Affected Zone - portion of the base metal not melted but whose mechanical properties and microstructure were affected by the heat of the joining process ▪ Base Metal <p align="right">NEM</p>
<p>UNIT 3: Weld Metallurgy</p>	 <p align="center"><i>Fig. 1: Explanation of Heat Affected Zone</i></p>
<p>UNIT 3: Weld Metallurgy</p>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="475 1294 826 1568">  <p align="center"><i>Cracks in aluminium welds</i></p> </div> <div data-bbox="893 1294 1481 1608">  <p align="center"><i>Porosity observed in aluminium welded specimen after fractured.</i></p> </div> </div>

Unit No. -Name	Real life Applications
<p align="center">UNIT 4: Solid State Welding Processes</p>	 <p>(h) Butt welding of wires. (i) Lap welding of sheets.</p>
<p align="center">UNIT 4: Solid State Welding Processes</p>	
<p align="center">UNIT 4: Solid State Welding Processes</p>	
<p align="center">UNIT 4: Solid State Welding Processes</p>	

Dr. H. P. Jagtap
Course faculty



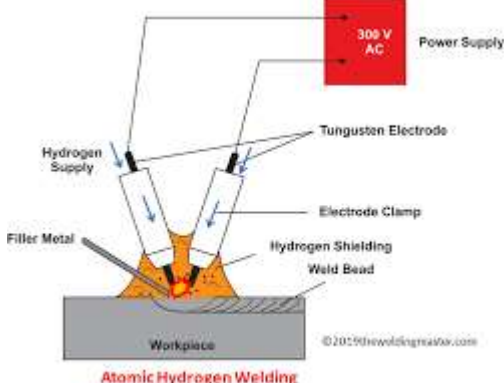


**ZEAL EDUCATION SOCIETY'S
ZEAL COLLEGE OF ENGINEERING AND RESEARCH
NARHE | PUNE -41 | INDIA**



Record No.: ZCOER-ACAD/R/16H

Revision: 00

Date:01/04/2021

Unit No. -Name	Real life Applications
<p align="center">UNIT 5: Advanced Welding Processes</p>	 <p align="center">Atomic Hydrogen Welding</p>
<p align="center">UNIT 5: Advanced Welding Processes</p>	 <p align="center">Laser Beam welding</p>
<p align="center">UNIT 5: Advanced Welding Processes</p>	 <p align="center">Underwater welding</p>

Dr. H. P. Jagtap
Course faculty



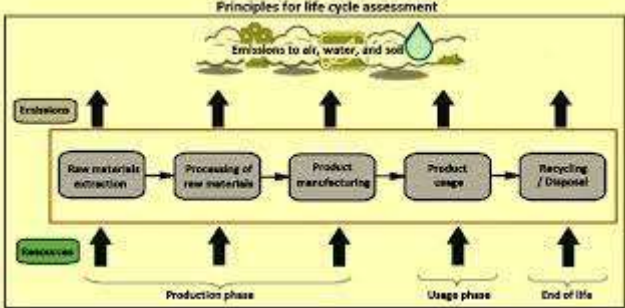


**ZEAL EDUCATION SOCIETY'S
ZEAL COLLEGE OF ENGINEERING AND RESEARCH
NARHE | PUNE -41 | INDIA**



Record No.: ZCOER-ACAD/R/16H

Revision: 00

Date:01/04/2021

Unit No. -Name	Real life Applications
<p>UNIT 6: Sustainable Manufacturing</p>	
<p>UNIT 6: Sustainable Manufacturing</p>	 <p align="center">Environment protection norms</p>
<p>UNIT 6: Sustainable Manufacturing</p>	 <p align="center">waste recycling</p>

Dr. H. P. Jagtap
Course faculty