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INCIDENT NOTICE

(Kindly direct all correspondence to the Secretary General)

INCIDENT TITLE: **Deflagration of pyrotechnic composition during rigid element filling**

DATE POSTED 22 November 2023	REFERENCE IN 23-10	SOURCE Orica
INCIDENT OUTLINE		
When did it happen?	18 September 2023	
Who experienced it?	Orica	
Where did it happen?	Lurin, Peru	
What material was involved?	Pyrotechnics	
What happened?	<p>During filling of 10mm rigid elements, some of the aluminium shells were becoming stuck and damaged in the machine guides.</p> <p>These shells were then filled with pyrotechnic composition and pressed. As a result of the deflagration, a significant amount of energy was vented laterally, resulting in the doors of the machine blowing out. There were 5 operators in the room at the time of the event. All operators evacuated and were unharmed.</p>	
Why did it happen – theory?	<p>The likely immediate cause of the event was a friction initiation of the pyrotechnic compound during pressing. This resulted in a deflagration which consumed 216 elements and 3 pots of pyrotechnic compound totalling approx. 2kg.</p> <p>Contributing factors included:</p> <ul style="list-style-type: none">- Damage of the aluminium shells during feeding- Formulation of pyrotechnic used had a high sensitivity and propagated readily- Cleaning frequency of the machine allowed an accumulation of powder in the machine, which increased the deflagration.	
What was the impact?	<p>Production of 10mm elements has ceased on this machine.</p> <p>The pyrotechnic compound involved has been discontinued and substituted with a lower energy/sensitivity formulation, which gives the same performance but with an improved risk profile.</p>	

ADDITIONAL INFORMATION

Enclosure

Refer to photos attached

DISTRIBUTED BY:

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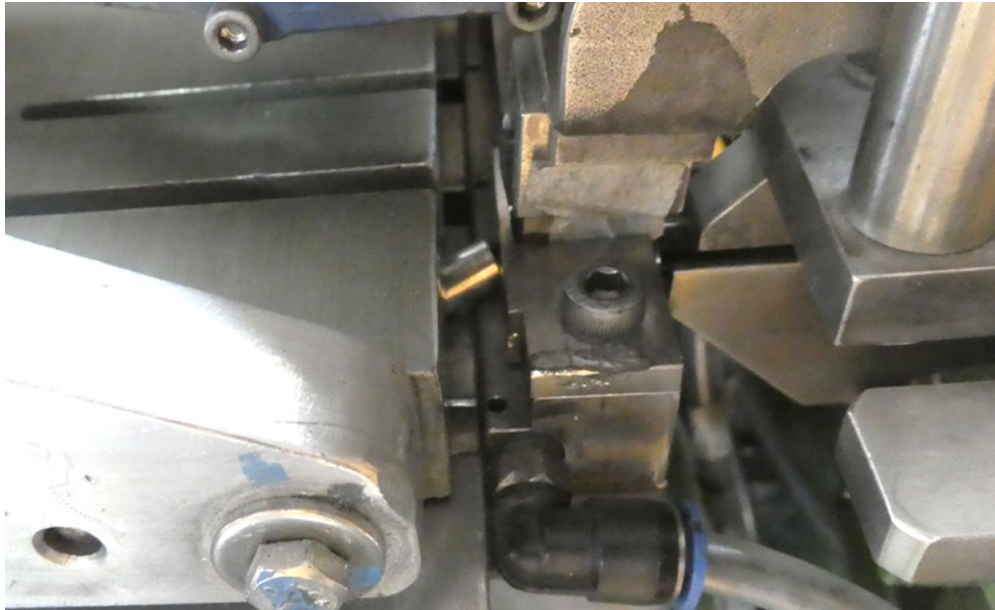
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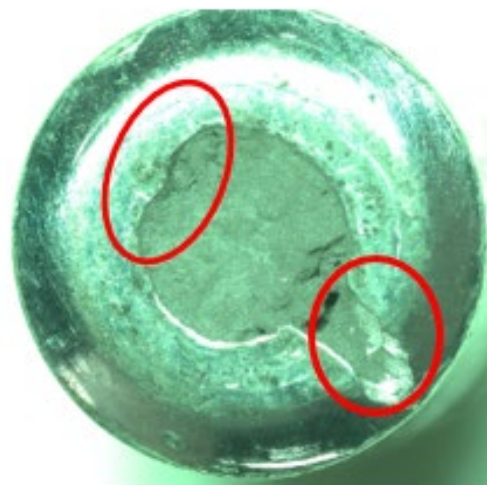
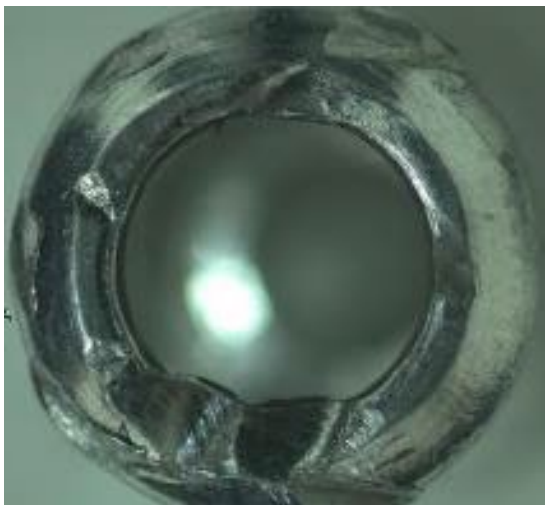
Element filling and pressing machine prior to the event



Element filling and pressing machine after the event



10mm elements would become stuck in the feeding chutes and dislodge



Examples of damaged elements