

ACERINOX EUROPA S.A.U.

Award: Safety
Category: Workplace Improvement

Exoskeleton

Challenge

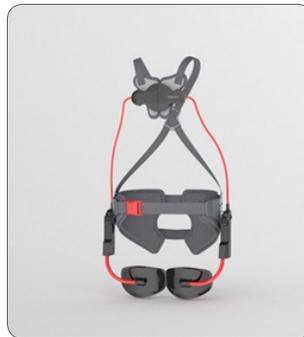
The main causes of accident in a refractory section in the Melting Shop are related to movements and postures of operators during refractory construction operations such as laddels and AOD converters. Those accidents produce musculoskeletal injuries on workers.

Action

To solve the problem Acerinox Europe has developed a specific project using an EXOSKELETON in cooperation with a Spanish engineering company leader in ergonomics. Two different types of design depending on different assembly phases.

The first type of design is used when an operator is mounting bricks in squatting position, such as the construction of the bottom of laddles and the bottom of AOD converters (Exoskeleton 1).

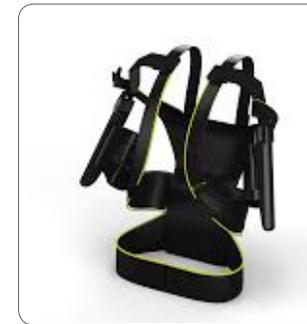
The other type of design is used when an operator is mounting bricks in a position higher than the shoulders, such as the construction of wall of laddles



Exoskeleton 1: Picture of the first type of exoskeleton that was developed, for an operator that is mounting bricks in a squatting position.



and the bottom of AOD converters (Exoskeleton 2).



Exoskeleton 2: Picture of the second type of exoskeleton that was developed, for an operator that is mounting bricks in a position higher than the shoulders.



Outcome

In the refractory section, accidents have been reduced by 80%. The benefits are clear: decrease accident rates, improve the ergonomics, safety and comfort of operators, improve the quality of the job, etc. Operators have a proactive approach to use the exoskeleton.