Scottish Chemical Industries launch SCOT-MAG (FUSED + GRANULATED FLUXES)

As the world moves towards environmental friendly processes, Aluminium Industry is no exception.

Cleaning and drossing of aluminium with traditional powder fluxes produces a huge amount of fumes, smoke and smell. This adverserly affects worker health, plant & machinery structure as well as the environment. To overcome this problem, Scottish Chemical Industries have launched SCOT-MAG (FUSED + GRANULATED FLUXES).

SCOT-MAG, is a range of fused + granulated fluxes used for cleaning, drossing, covering and degassing of molten aluminium. Scot-Mag also reduces Sodium and Calcium. Another advantage of these granulated fluxes is that it produces absolutely dry dross with very less aluminium wastage and hence is highly cost effective. The application rate is almost half that of regular powder fluxes. These fused fluxes are enviromental friendly, producing very less fumes, smoke and smell.

SCOT - MAG flux is a synthetic anhydrous carnallite (KMgCl3, K2MgCl4, K3Mg2Cl7). SCOT - MAG reacts quickly and efficiently to remove sodium, lithium and calcium from molten aluminium and aluminium alloys, as well as from refractory furnace linings. Sodium levels less than 1 ppm in high Mg aluminium alloys are attainable in the casting. SCOT - MAG flux removes various nonmetallic inclusions such as oxides, carbides and borides, and enhances degassing when injected.

APPLICATION :

SCOT – MAG flux is usually used when the major objective is alkali (Na, Li, Ca) and non – metallic inclusion removal from all types of alloys in primary smelters, secondary smelters, extrusion industries and conductor wire manufacturers.

USE INSTRUCTIONS :

Recommended ranges for the application of SCOT-MAG flux are below. Exact requirements depend on the initial and targeted levels of inclusions, hydrogen, sodium, lithium and calcium. Shop-specific application rates are developed through experience. To remove nonmetallic inclusions, hydrogen and alkaline metals from molten aluminum in melting or holding furnaces, add between 250 grams to 1.0 kg of SCOT-MAG flux for each metric tonne of metal charge.

Addition and stirring of SCOT - MAG flux by means of SCOT-Flux Injection Machine gives the highest refining efficiency.

ADVANTAGES :

a) Removes Sodium and Calcium from molten Metal.

b) Increases the extrusion speed and die life when extruding profiles and Reduces the number of breaks in continuous casting.

c) Eliminates edge cracks when rolling high Mg aluminium alloys.

d) Free of fluorides. Zero fluoride emissions and Non-hazardous compound.

e) Non-Radioactive raw materials used.

f) Low melting point for rapid dispersion (<766°F, 480°C).

g) Less hygroscopic than magnesium chloride.

h) Replaces chlorine gas in furnace fluxing.

i) Reduces the use of chlorine gas in in-line refining systems.

j) Low application rates, typical 0.5 kg / MT aluminium.

k) Keeps the furnace, launders, in-line degassers and casting nozzles free from sludge and dross built-up.

3D printing is going mainstream

According to sources For automakers, some parts, like ones that are commonly replaced on current models, are easy to keep in stock. But what about the ones that are rarely needed? Continuing to produce and store those can be expensive. To solve this problem, Mercedes has decided to turn to 3D printing.

Today, Mercedes-Benz Trucks announced that it has approved its first "printed spare part made of metal." It's a thermostat cover (pictured above) that fits older truck and Unimog models. And according to Mercedes, it's the first 3D printed metal part to be offered to consumers. This isn't Mercedes' first foray into 3D printing, however. It began offering 3D printed plastic parts a year ago.

If you're worried that these parts won't be as strong as regular ones, don't be. "We ensure the same functionality, reliability, durability, and cost-effectiveness with 3D metal parts as we do with conventionally produced parts," said Andreas Deuschle, Head of Marketing & Operations in Customer Services & Parts at Mercedes-Benz Trucks, in a statement.

According to Mercedes, the advantage of printing these parts instead of casting them is that they can be made 'at the touch of a button' with any geometry and in any numbers." Production also doesn't require expensive development work or specialized tools. From here, Mercedes plans to use 3D printing to make metal parts for engines, cooling systems, transmissions, axles, and even in the chassis.

"Especially when they have complex structures, 3D-printed metal parts in small numbers can be produced cost-effectively as infrequently requested replacement parts, special parts and for small and classic model series," the German automaker said in its statement.