

COVERING, DEOXIDISING, DROSSING FLUXES FOR ALUMINIUM AND Al/Si - Al/Si/Cu AND Al/Cu ALLOYS

Aluminium alloys during the melting process are subject to oxidation caused by the reaction with atmospheric oxygen.

At the end of melting the melt contains oxides and solid impurities from different origin: pollutants contained in the solid charge, refractory particles from the furnace lining, dross residues, etc.

The impurities must be removed from the melt before casting, in order to avoid the presence of inclusion in the castings and in wrought products, which produce a worsening of mechanical and superficial characteristics and problems during machining and other workings.

PROTECME supplies a wide range of products for the different operating conditions, which are used for the elimination solid impurities.

The products accomplish different actions that we can list as follows:

- Covering: they form a protective layer on the surface of the melt, thus reducing the alloy oxidation and, consequently, the melting losses.
- Deoxidation: the chemical and physical characteristics of the materials favour the separation of the solid impurities from the molten bath and their passage into the dross.
- Drossing action: they permit to the particles of liquid alloy entrapped in the dross to come back into the melt; in this way the melting yield increases and the dross obtained is dry and easy to remove.

The following table lists the most common products.

PRODUCT	APPEAR.	COLOUR	TYPE	SLAG	FURNACE	NOTES
ITALPURO SE	Crystalline powder	Salmon pink	Covering Drossing	Dry	Crucible, holding	General use
ITALPURO SE/EC	Crystalline powder	White	Covering Drossing	Dry	Crucible, Holding	Ecological; low fluoride content
ITALPURO GR	Crystalline powder	Green	Drossing	Dry	Crucible, holding	For pressure die casting foundry; active over 650°
ITALPURO S2/P	Tablets	White	Covering	Liquid then dry	Reverberatory Melting	The most practical product for application in reverberatory furnace
ITALPURO S3/P	Tablets	White	Covering	Liquid then dry	Reverberatory Melting	Ecological, low fluorine content
ITALPURO 1MM	Tablets	White	Drossing	Dry	Transfer Ladle	Low fume development
PROSA	Flakes	Salmon pink	Covering Drossing	Dry	Crucible, holding	General use
PROVER	Flakes	Green	Drossing	Dry	Crucible, holding	For pressure die casting foundry; active over 650°
ITALPURO DEOSAF	Flakes	Violet	Covering, deoxidising, drossing	Dry	Reverberatory, crucible	Chloride and sodium-free, suitable for all types of alloys

Other products are available for specific situation.

Protecme supplies new products able to satisfy the individual needs of each foundry.

COVERING, DEOXIDISING, DROSSING FLUXES FOR Al/Mg AND Mg BASED ALLOYS

The Al Mg alloys, and more remarkably the Mg alloys, are particularly subject to oxidation during the melting process. For this reason it is very important to protect the molten bath as soon as it forms, using suitable products.

At the end of the melting the deoxidisation treatment permits to obtain an alloy without solid impurities.

PROTECME produces a range of products for the carrying out of the above-mentioned treatments. The following table lists the most common products.

PRODUCT	APPEARANCE	COLOUR	APPLICATION
<i>ITALPURO BR1</i>	Deliquescent powder	Beige	Al/Mg e Mg alloys Covering and deoxidisation
<i>ITALPURO MP/1 eco</i>	Crystalline powder	Yellow	Al/Mg alloys Drossing
<i>PROMIP</i>	Flakes	Yellow	Al/Mg alloys Drossing
<i>ITALPURO BR29/3</i>	Deliquescent powder	Beige	Mg alloys Covering and deoxidisation

Other products are available for particular situations. PROTECME can also produce new materials in order to satisfy the needs of each foundry.

