

PRODOTTI TECNICI METALLURGICI

MASTER ALLOYS IN TABLET FORM

We are pleased to present you a new range of products in tablets form, designed in our laboratories, that are used to introduce particular elements into molten aluminium and its alloys.

- **DEGASUB® 75% - 80%** for the addition of chromium, copper, iron, manganese, nickel and titanium.
- **SIL MET Al Si 50%®**, for the addition of silicon.

DEGASUB® 75% - 80%

DESCRIPTION

The DEGASUB® are produced with a 75% and 80% concentration of alloying element. Two types of materials are available: with flux (a mixture of element, pure aluminium and sodium free chemical fluxes), and flux free (FF) (a mixture of element and pure aluminium). All tablets, except those containing titanium, are self-sinking. The principal characteristics are summarised in the following table.

ELEMENT	CODE		TABLET WEIGHT	QUANTITY OF ELEMENT PER TABLET	QUANTITY OF ELEMENT PER ROLL (*)
	Concentration	Tablets with fluxes	Flux free tablets FF	g (***)	Kg (***)
Cr 75%	070.305	070.306	1350	1	3
Cr 80%	070.307	070.308	1250		
Cu 75%	070.310	070.309	1350	1	3
Cu 80%	070.313	070.311	1250		
Fe 75%	070.315	070.316	1350	1	3
Fe 80%	070.317	070.318	1250		
Mn 75%	070.320	070.321	1350	1	3
Mn 80%	070.330	070.322	1250		
Ni 75%	070.325	070.326	1350	1	3
Ni 80%	070.328	070.327	1250		
Ti 75%	070.331	070.332	675	0,5	2 (**)
Ti 80%	070.333	070.334	625		

(*) Three (**) four tablets are enveloped in aluminium foil - (***) Nominals quantities
 Elements content = 75%: 73% - 77% remainder: mixture of pure aluminium + flux, or pure aluminium (FF type)
 80%: 78% - 82% remainder: mixture of pure aluminium + flux, or pure aluminium (FF type)

APPLICATION

DEGASUB® tablets can be introduced into melting furnaces as well as into holding furnaces. Skim-off and distribute the necessary quantity of product into the melt. Allow the product to dissolve. Accurately stir the melt to homogenise it and then cross-off.

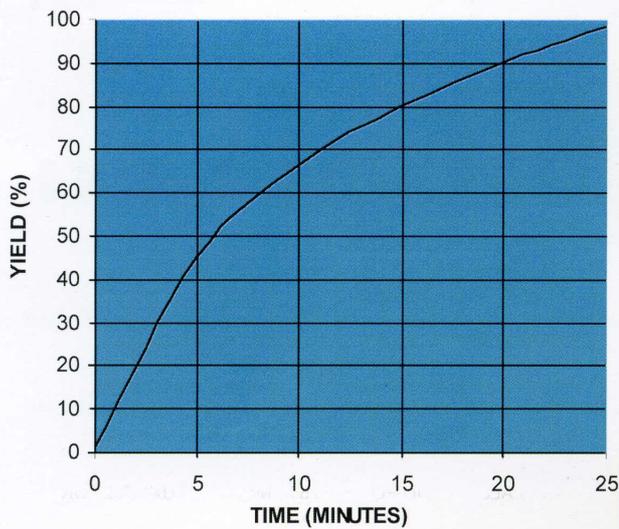
ADVANTAGES

The employ of DEGASUB® master alloys permits to obtain the following advantages:

- Facility of use.
- Reduction of the time necessary for the dissolution, compared to the other types of master alloys.
- Reduction of the volumes of stored materials.
- Favourable effect, in the case of flux containing products, on the separation of possible oxides and impurities into the dross.

DEGASUB Cr 75% - DEGASUB Cr 80%

CHROMIUM YIELD



GRAPH OF CHROMIUM DISSOLUTION

Type of alloy: Al 99.7
Metal bath Temperature: 720-760°C
Addition test: 0.2% Cr to Al

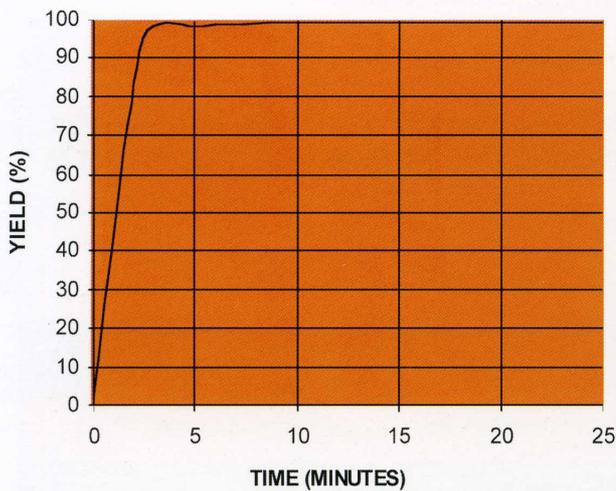
You can note on the graph on the left that after 5' will be released in the metal bath 45% of the Cr introduced.
After 10' the quantity of Cr released is 66%.
After 23' it reaches 95% and after 25' it is higher than 99%.

N.B.: this information is valid for the alloy indicated and at the temperature indicated

FOR THE ADDITION TEST CONSIDER THAT EACH TABLET CONTAINS 1 kg OF CHROMIUM, EACH STICK CONTAINS 3 kg OF CHROMIUM AND IN EACH BOX THERE ARE 18 kg OF CHROMIUM.
THIS IS ALSO VALID FOR Cr 75%, Cr 80% FLUX FREE OR WITH FLUXES.

DEGASUB Cu 75% - DEGASUB Cu 80%

COPPER YIELD



GRAPH OF COPPER DISSOLUTION

Type of alloy: 99.7Al
Metal bath Temperature: 720°C
Addition test: 3.0% Cu to Al

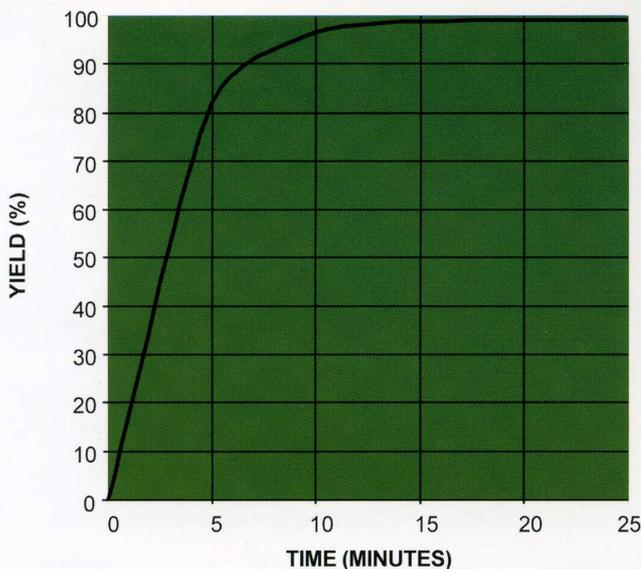
You can note on the graph on the left that after 2.5' will be released in the metal bath 95% of the Cu introduced.
After 5' the quantity of Cu released is 98%.
After 10' it is higher than 99%

N.B.: this information is valid for the alloy indicated and at the temperature indicated

FOR THE ADDITION TEST CONSIDER THAT EACH TABLET CONTAINS 1 kg OF COPPER, EACH STICK CONTAINS 3 kg OF COPPER AND IN EACH BOX THERE ARE 18 kg OF COPPER.
THIS IS ALSO VALID FOR Cu 75%, Cu 80% FLUX FREE OR WITH FLUXES.

DEGASUB Fe 75% - DEGASUB Fe 80%

IRON YIELD



GRAPH OF IRON DISSOLUTION

Type of alloy: Al 99.7
Metal bath Temperature: 720-760°C
Addition test: 0.75% Fe to Al

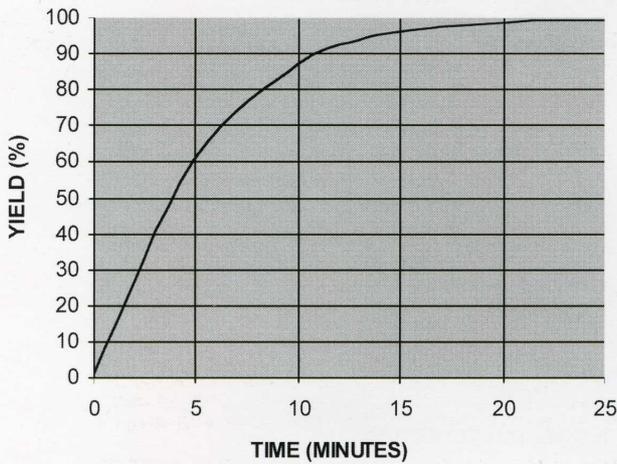
You can note on the graph on the left that after 5' will be released in the metal bath 82% of the Fe introduced.
After 10' the quantity of Fe released is $\geq 95\%$.
After 15' minutes it is higher than 99%.

N.B.: this information is valid for the alloy indicated and at the temperature indicated

FOR THE ADDITION TEST CONSIDER THAT EACH TABLET CONTAINS 1 kg OF IRON, EACH STICK CONTAINS 3 kg OF IRON AND IN EACH BOX THERE ARE 18 kg OF IRON.
THIS IS ALSO VALID FOR Fe 75%, Fe 80% FLUX FREE OR WITH FLUXES.

DEGASUB Mn 75% - DEGASUB Mn 80%

MANGANESE YIELD



GRAPH OF MANGANESE DISSOLUTION

Type of alloy: 99.7 Al
Metal bath Temperature: 760°C
Addition test: 1.0% Mn to Al

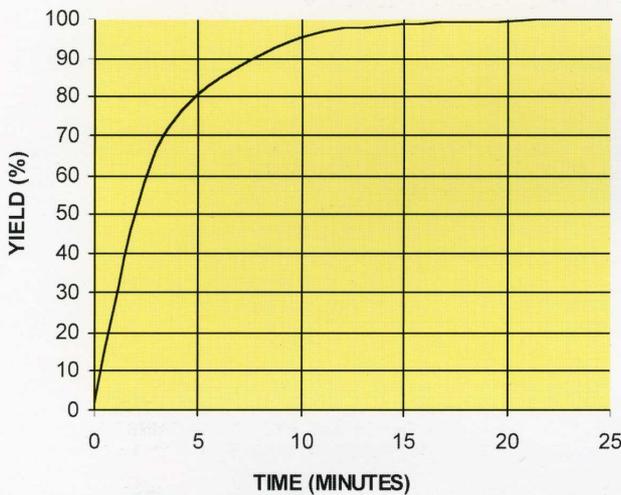
You can note on the graph on the left that after 5' will be released in the metal bath 60% of the Mn introduced.
After 14' the quantity of Mn released is 95%.
After 20' it is higher than 98%.

N.B.: this information is valid for the alloy indicated and at the temperature indicated

FOR THE ADDITION TEST CONSIDER THAT EACH TABLET CONTAINS 1 kg OF MANGANESE, EACH STICK CONTAINS 3 kg OF MANGANESE AND IN EACH BOX THERE ARE 18 kg OF MANGANESE.
THIS IS ALSO VALID FOR Mn 75%, Mn 80% FLUX FREE OR WITH FLUXES.

DEGASUB Ni 75% - DEGASUB Ni 80%

NICKEL YIELD



GRAPH OF NICKEL DISSOLUTION

Type of alloy: Al 99.7
Metal bath Temperature: 750°C
Addition test: 1.0% Ni to Al

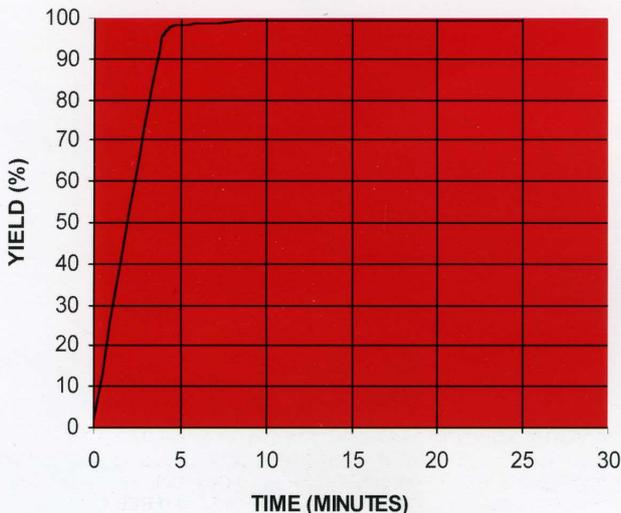
You can note on the graph on the left that after 5' will be released in the metal bath 80% of the Ni introduced.
After 10' the quantity of Ni released is equal 95%.
After 20' it is higher than 99%.

N.B.: this information is valid for the alloy indicated and at the temperature indicated

FOR THE ADDITION TEST CONSIDER THAT EACH TABLET CONTAINS 1 kg OF NICKEL, EACH STICK CONTAINS 3 kg OF NICKEL AND IN EACH BOX THERE ARE 18 kg OF NICKEL.
THIS IS ALSO VALID FOR Ni 75%, Ni 80% FLUX FREE OR WITH FLUXES.

DEGASUB Ti 75% - DEGASUB Ti 80%

TITANIUM YIELD



GRAPH OF TITANIUM DISSOLUTION

Type of alloy: Al 99.7
Metal bath Temperature: 750°C
Addition test: 0.2% Ti to Al

You can note on the graph on the left that after 5' will be released in the metal bath 90% of the Ti introduced.
After 10' it is higher than 99%.

N.B.: this information is valid for the alloy indicated and at the temperature indicated

FOR THE ADDITION TEST CONSIDER THAT EACH TABLET CONTAINS 0.5 kg OF TITANIUM, EACH STICK CONTAINS 2 kg OF TITANIUM AND IN EACH BOX THERE ARE 12 kg OF TITANIUM.
THIS IS ALSO VALID FOR Ti 75%, Ti 80% FLUX FREE OR WITH FLUXES.

SIL MET AL SI 50%

DESCRIPTION

Tablets containing 0,5 kg of pure silicon (nominal weight 1 kg) for the alloying of molten aluminium and its alloys.

PRODUCT APPEARANCE

Grey cylindrical tablets, odourless.

OTHER CHARACTERISTICS

The product is completely made of silicon and aluminium. It does not contain salts.

APPLICATION

The addition of silicon into molten aluminium and its alloys can be carried out in both melting and holding furnaces. Remove the dross that may be present on the bath surface and add the required quantity of tablets plunging them into the melt by means of suitable tools, protected with an insulating dressing. Let the melt to rest for about ten minutes, then carefully stir it.

ADVANTAGES

The use of SIL MET Al/Si 50% permits to accomplish the addition of silicon in a shorter time, compared to the use of other master alloys.

PACKING

Rolls of tablets wrapped in aluminium foil and contained in cardboard boxes.

STORAGE

Store the product in dry rooms and in the original sealed container.

WARNINGS

Avoid moisture pick-up and contact of the product with water.

The logo for PROTECME, featuring the word "PROTECME" in a bold, blue, sans-serif font. The letter "P" is stylized with a horizontal bar extending to the right, which then curves down to form the top of the letter "E".

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