

PRODUCT DATA SHEET

CERALOY – Sr (5 / 10)

PRODUCT: -

CERALOY-Sr is modifier for Al-Si hypo-eutectic and eutectic alloy. They are particularly suited for all alloy properties, gravity die castings such as cylinder heads, manifolds, aluminium alloy wheels etc., and sand castings.

PURPOSE: -

The purpose of modifying eutectic and hypo-eutectic Al-Si alloy is to change the acicular form of silicon to a spherical or globular form. The modification treatment improves the mechanical properties in both the as cast and heat-treated condition. Conventionally Al-Si hypo-eutectic and eutectic alloys are treated with sodium in the metallic form or with salt base modifiers to obtain the desired structure. However, pure sodium is very difficult to handle while salt based modifier can cause some amount of moisture and gas pick up if not formulated, stored or used properly. The effect of modification with sodium fades with holding times and is lost on re-melting. Excessive sodium additions or over modifications reduce tensile values appreciably. The chemical reaction of sodium based fluxes reduces crucible life substantially and pollutes the environment due to fume generation.

ADVANTAGES :-

CASTING WITH IMPROVED AND CONSISTENT MECHANICAL AND METALLURGICAL PROPERTIES: - **CERALOY** improves as – cast mechanical properties such as tensile strength and elongation. The longer lasting modification effect gives consistent metallurgical and mechanical properties of the castings.

BETTER MACHINABILITY: - The modified metallurgical structure and improved distribution of silicon phase gives better machine-ability and improved surface texture.

APPLICATION:-

Prepare the desired alloy composition. Follow the normal fluxing and cleansing procedure recommended for using suitable flux from **CERAFLUX** range. Degas the melt with a suitable grade of **D’GASSER** and dross off using small quantity of a suitable flux from **CERAFLUX** range.

After degassing operation, add **CERALOY-TiB** as per requirement.

After grain refinement, add pre-calculated quantity of **CERALOY-Sr** depending on the melt size and rabble it to ensure homogeneity of the composition. Wait for minimum 10 minutes for modification effect to take place. Take a sample for checking the modification effect, if satisfactory start the cast.

<u>ALLOY</u>	<u>% RANGE</u>	<u>% OTHER</u>	<u>ALUMINUM</u>
Sr-5	4.5-5.5	0.5 max	balance
Sr-10	9.5-10.5	0.5 max	balance

APPLICATION RATE :- 0.2-0.3% of **CERALOY-Sr-10**
0.4-0.6 % of **CERALOY-Sr-5**

STANDARD PACKING: - **CERALOY Sr-5/10** is available in 25 kg gunny bag.
Each cast waffle weights approximate 200gms and 9.5 mm rod approx.100gms

PRECAUTION: - Degassing and fluxing using chlorine based products must be avoided after modification using **CERALOY-Sr-5/10**; otherwise it results in strontium loss.