VARAN®

VARAN® is a precisely blended, cost effective activated sodium bentonite for green sand moulding.

Varan® is selectively mined premium grade bentonite for foundry use which has earned a respected name in the international market.

Product Features:

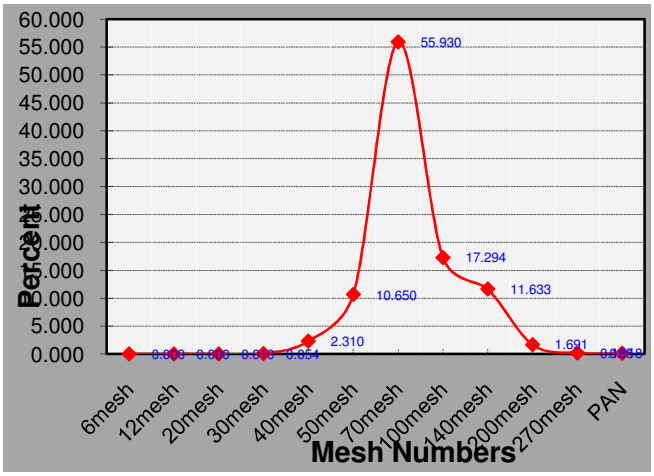
- Better mould strength both for Wet Tensile and Green compression.
- Quick assimilation of water resulting in short preparation time.
- Increased shakeout properties.
- High thermal stability.

Technical Specification: -

Free Swelling Volume	28 - 33 ml
Methylene Blue Adsorption Value	390 - 400 mg/g
Green Compressive Strength (GCS)	8.8 min N/Cm^2
Green Compressive Strength (Calcined)	7.5min N/Cm^2
Wet Tensile Strength (WTS)	0.22 N/Cm^2 min.
Wet Tensile Strength (Calcined)	0.17 min N/Cm^2
Compactibility	45% min
Moisture	12% max
pH	9 – 10.5

Remarks: - *All Test standards as per VDG*

The value of WTS & GCS depicted in the table is as per following sand graph generally in the range of sand AFS 55-65



Chemistry:

Silica as(SiO_2)	43% – 55%
Alumina as(Al_2O_3)	14% – 18%
Iron as(Fe_2O_3)	7% – 14%
Calcium as(CaO)	2% – 5%
Magnesium as(MgO)	1% – 2.5%
Sodium as(Na_2O)	1.8% – 3%
Potassium as(K_2O)	0.03% – 0.3%

Particle Size Analysis:

#100 Mesh Passing through	98%-99%
#200 Mesh Passing through	80%-86%
#325 Mesh Passing through	60%-75%

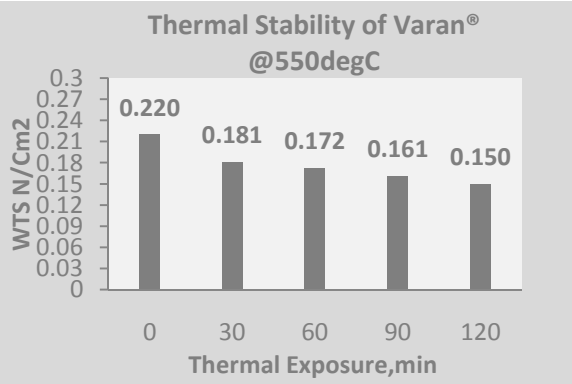
Technical Advantage:

Varan® provides a min WTS value of 0.22 N/cm^2 on simple addition of 5% on new sand, which is among the highest as per industry standards. Higher WTS in the system sand is always desirable to prevent scabs and related defects. Regular use in the system sand reduces the dead clay percentage and less moisture is required to achieve the green sand moulding properties. On long term usage, consumption of **Varan®** is considerably reduced thereby giving economic benefit.

Thermal Stability:

Effect of temperature on WTS:

Varan® can maintain its strength upon exposure to high temperature which is most demanding in green sand for better shake out.



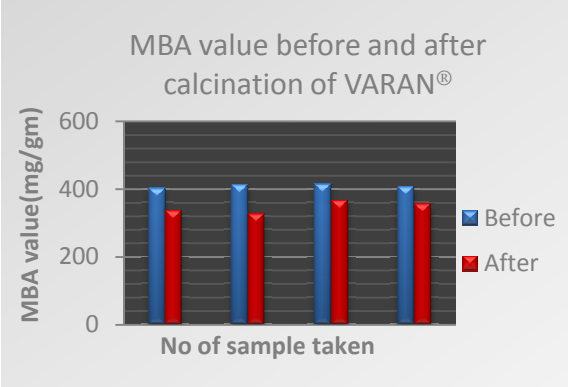
The graph shows the data when Varan® is exposed at uniform temperature of 550degC with variable time span. Despite continuous exposure to heat, the Wet Tensile Strength is maintained.

Effect of temperature on MBA value:

Standard-as per VDG p69

The following test was carried out on four different Varan® production sample after calcination at 550degC temperature for 30mins.

It is seen that the rate of thermal degradation in Varan® is in the range of 15%-20%.



What People say about VARAN®

"It's been more than five years we've used the "VARAN®" bentonite and we are completely satisfied also service company AMRFEO Co.Ltd. The use of bentonite "VARAN" in our foundry has allowed us to produce good quality castings. The good sales staff always encourages us to be faithful to the company. We wish you good luck. "---- Mr. Lebhari - Morocco

"Among supplier of bentonite which we have used their product, Foundry bentonite from 'Amrfeo has had highest quality according to our factory standard. It has satisfied us as we introduced 'Amrfeo to other foundries in Iran. They have supported us every time when we have need for their technical support." ---- Mr. A.Yosefnezhad - Iran

"We really appreciate the technical approach of Amrfeo. Their Varan is best fit for our system. we are able to control all sand related defects in our system sand---- Stefan Hoffman-Germany

"Varan is good bentonite in terms of consistency. We are happy to use Varan with our local bentonite in our foundry— Mr. Bagshahi, Iran