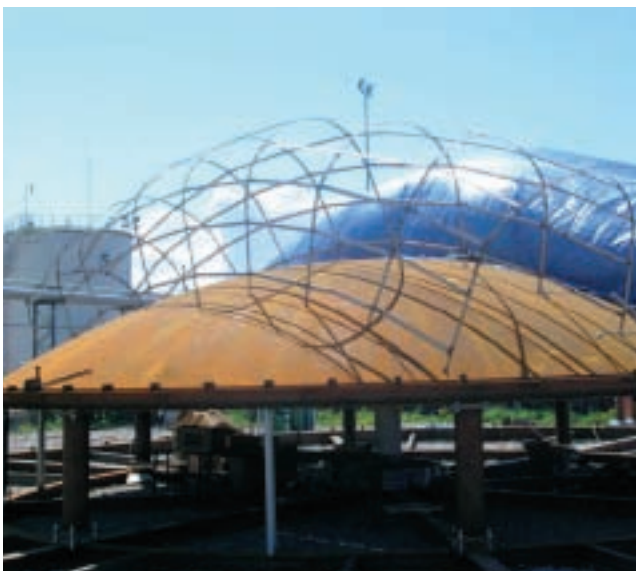


Gullco Flexible Track Kat Oscillator Combination & KATBAK Ceramic Weld Backing Enable “Single-Sided” Welding Of Spheres.

Kohimo Co. was able to reduce production time and improve weld quality in the production of spheres using Gullco products and technologies. In this project Kohimo was manufacturing 18 m. diameter spheres from 20 mm. thick

steel in Estonia. The method used in order to reduce production cost was single side welding, 60 deg. Incl angle 4-5 mm gap 2 mm root-face using 1.2 mm flux cored wire.

Gullco Flex Kat Oscillator Combination units running on flexible Kat Flex Track were used to perform the weld operation. This Gullco equipment combines welding gun oscillation movement with precise travel speed to produce a wide variety of angular and step weld patterns. The integrated control system directs both



Above: The top of the sphere is “tented” to protect from wind and rain during construction of the spheres.

Product Application File
 Flex Kat Oscillator Combo & KATBAK Ceramic Weld Backing
 For Sphere Welding

the Flex Kat carriage travel speed/direction and the weld gun movement/ operation. This enables pre-setting of stroke speed, oscillator and carriage dwell times and carriage delay/start after wire feed start. When combined with the precision controlled travel speed of the Kat carriage, a wide range of weld patterns can be produced. Gullco KATBAK Ceramic Weld Backings enabled X-ray quality root welds in one pass, full penetration welding from one side and uniform backbeads of finish quality. Inside the sphere, strong backs were used with cut-outs in them ...allowing



Above: Gullco Flex Kat Oscillator Combination runs on Gullco flexible track held in position using magnetic mounting assemblies



Katbak ceramics to be applied through. These strong backs maintained the shape of the sphere so that 100% weld penetration could be maintained.

Below: Strong backs with cut outs for KATBAK ceramic weld backings are used to provide 100% X-ray quality weld from one side.



Two Gullco Flex Kat Oscillator Combination units were mounted on a single flexible track working into the middle of the same joint. This, combined with the placement of Gullco 1G93-R Katbak ceramics on the inside of the vessel increased the quality and improved efficiency of the weld. This process resulted in the root side of the joint being as good as the outside with no defects and very few stops and starts in the joint.

Above: Gullco KATBAK with self-adhesive tape fits through cut outs in the strong backs. The use of KATBAK in this application enabled single sided welding (below) on the outside of the sphere...resulting in the root side of the joint inside the sphere (right) being as good as the outside.



The use of Gullco KATBAK can significantly reduce weld costs by eliminating the need for costly grinding, gouging and re-welding.



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