

RB300 Series for Impeller



Refurbished on the left and new uncoated Impeller on the right



Old throw away impeller



Kevlar reinforcing added



Post cure



Final machining to original dimensions and tolerances

Industry Local Authorities – City Councils

Date October 2005

Substrate Cast iron Impeller

Products Chemco RB300AR Series

Environment Sewerage Treatment

Challenge The client had an old impeller where corrosion/erosion destroyed the impeller profile, severely reducing pump performance increasing operating costs.

A replacement would have corroded and eroded away just as quickly, find a long lasting solution.

Chemco's Solution Using an original impeller the dimension of the un damaged profile was copied, using this stencil a composite repair was achieved within millimetres. With a combination of Kevlar reinforcing using hand laminated techniques and Chemco RB300AR, a glass-flake, silicon carbide filled Vinyl ester was applied, at 2000 micron nominal thickness and balance to required grade. This system has excellent resistance to corrosive/erosive environments.

Scope RB300 (AR) to rebuild surfaces
Kevlar to improve strength
RB300 (AR) application to achieve desired thickness
Post cured at 80°C for 8 hours to improve chemical and abrasion resistance
Final machining to original dimension and tolerances using a PCD (poly carbonate diamond) tip.

Results The job was completed within 2 weeks, much to the client's delight. With the successful refurbishment of this impeller, the client could reclaim and reuse what was originally deemed as worthless equipment. This saved replacement costs and critical downtime.