

Efficient Process Optimization

SUMMARY

Race Face manufactures the lightest high-performance carbon composite cycling components in North America using regionally sourced materials. While many other sporting goods manufacturers have relocated facilities to low labor rate regions to reduce cost, Race Face has committed to remain a made-in-Canada enterprise.

In the face of increasing market consolidation and competition, Race Face continuously seeks ways to improve design and manufacturability and turned to CRN for assistance with process optimization and cost reduction.

Following a systematic diagnosis—initially developed by CRN for use by engineers in the aerospace industry—CRN identified production bottlenecks. By revisiting workflow practices Race Face and CRN together identified improvements that collectively doubled production rates with minimal capital investment and no performance penalty.

Race Face is now implementing the low-cost approach across all its product lines and, as a result, is able to expand its manufacturing facilities and create new jobs in Western Canada.

CHALLENGE

The sporting goods market is highly competitive and fragmented. To remain successful, Race Face must keep abreast of the latest technological advances. The aim of this project was to enable Race Face to achieve its growth and profitability targets by improving productivity.



RFE Holding (Canada) Corp.
Burnaby, British Columbia

Race Face has been designing and manufacturing leading-edge performance cycling components, clothing, and protection for over 20 years.

Client Contact

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APPROACH



After a preliminary review, CRN staff characterized the cure kinetics of Race Face's composite materials and subsequently modeled and optimized the required manufacturing cure cycle. A simple approach to optimize processing time was then developed by CRN for Race Face to apply in the production environment.

Figure 1: Differential scanning calorimeter used to conduct the cure kinetics characterizations at CRN's laboratories in Vancouver.

OUTCOME

Through the knowledge-to-practice methodology underlying CRN's vision, the generic application of the above diagnostic approach can be applied by all of CRN's industrial members, allowing each of them to revisit their current manufacturing workflows and explore strategies to increase productivity. In Race Face's case, the company and CRN together were able to identify improvements that effectively doubled production rates with minimum capital investment and no performance penalty.

"Working with CRN helped us to better understand our manufacturing process, and dramatically increase our production capacity. Prior to contacting CRN, we were heavily limited by our press capacity and high tooling costs. With our optimized process we have the potential to double our capacity, at virtually no cost, and with no loss of performance to the product. The Race Face Manufacturing/Engineering Team was challenged to better understand our curing cycle, and CRN provided us the resources, advanced laboratory equipment and knowledge to accomplish what we set out as a brand to solve."

Rob Moore, Director of Engineering, Race Face

IMPACT

Race Face has been able to increase output and fund expansion in its Burnaby facility, permanently hiring a recent engineer trained in composites by the CRN. This is a powerful example of how CRN's vision for increasing technical capabilities in industry is simultaneously meeting industrial needs and creating high-value jobs in Canada.

CONTACTS

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