Success Story: R&D Support for Multi-Layer PE Tube Production Line

BOUBYAN PETROCHEMICAL COMPANY[1] AND KUWAIT FOUNDATION FOR ADVANCEMENT OF SCIENCES[2]

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ABOUT THE PROJECT

Muna Noor faced a challenge in producing a pipe for one of its customers. That is a large diameter, thick walled polyethylene pipe that is required to meet a specific application. The production parameters, especially during the cooling period after exiting the die, need to be carefully specified.

1. A BRIEF DESCRIPTION ABOUT THE COMPANY

Boubyan Petrochemical Company (BPC) was established in February 1995 through an IPO as the first private sector company with a primary objective of investing in Chemical / Petrochemical projects as well as in industrial projects in general. Its key investment has been and remains to be a 9 % equity stake in EQUATE Petrochemical Company (EQUATE) and the Kuwait Olefins Company (TKOC). In addition to these comes the Omani wholly owned subsidiary, the Muna Noor Group of Companies (3 sites of manufacturing facilities spread over Sohar, Muscat & Salalah) specialized in the production of various types of plastic pipes (PE, PP & PVC) catering for industrial and consumer usage. The MN Group is also active in production and marketing of fittings and other related products in addition to having expertise in irrigation systems on large scale.

2. WHAT WAS THE ROLE OF KFAS & HOW DID IT HELP WITH FUNDING THE PROJECT?

KFAS funding of this project had to come in phases, the first such phase was in determining the most suitable PE 100 (HDPE) material from several potential suppliers.

The approach to addressing the above was by working with SET and ICT Fraunhofer. The following expertise was introduced.

- Polymer Melt Rheology along with Measurement Techniques

BPC and KFAS had to jointly work towards the development of a novel rheological testing protocol to measure the rheological properties of HDPE under conditions that mimic those at the die exit and the initial cooling stage during pipe production.

The initial set of results appeared to show correspondence between ranking by the lab tests against those of industrial scale. A second set of materials is under testing to confirm correspondence.

If proven, then the lab test can be used as a standard step to screen materials for use in this application, thereby saving valuable time and material (Cost).

3. CONCLUSIONS

Based on what BPC has realized so far, BPC would like to enhance the relationship with KFAS, whereby the company can get both financial and technical expertise for our industrial ventures.

Finally BPC would certainly recommend that qualified applicants make use of such great KFAS programs, whenever possible and as needed.

FUNDING INFORMATION

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