



NOVEMBER 2020 EDITION

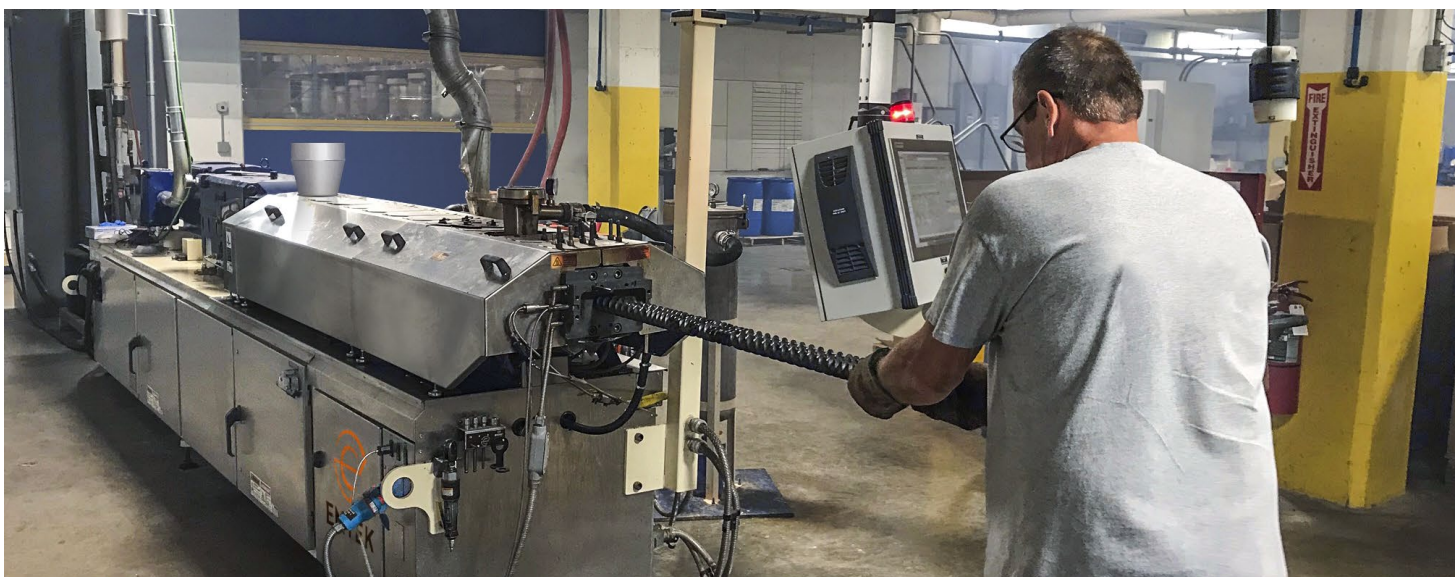
Extrusion Solutions

THE LATEST EXTRUDING NEWS FROM ENTEK

JEDA
Polymers, LLC
Engineered Thermoplastics

CHOOSES  **ENTEK**

Leading Midwest Compounder Gains Competitive Advantage with ENTEK QC³ Machinery, Vacuum Feed Technology (VFT)



Sam Steffen, Maintenance Manager at JEDA Polymers, performing a screw change on the ENTEK QC³-43mm twin-screw extruder

JEDA Polymers is a leading compounder and supplier of thermoplastics for injection molders. They offer a range of standard, specialized, and custom products with an emphasis on nylons. Founded in central Illinois in 2007 by Jeff Goodwin and Ronda Haskell, the company grew rapidly and relocated to a brand new 43,000 square foot facility in Dyersville, Iowa in 2016.

JEDA originally set out to help smaller injection molders meet their materials challenges, and that same charter continues today; molders make up 100% of JEDA's business.

Growth and Expansion

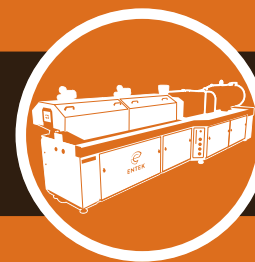
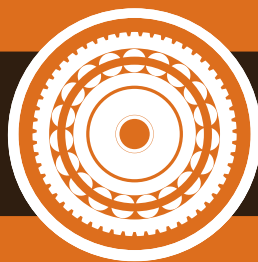
After the new Dyersville facility was built in 2016, JEDA Polymers set out to expand their operations. "We already knew of ENTEK's reputation for building high-quality twin-screw extruders," said John Deeken, Engineering/Quality Management Administrator at

JEDA. "While we had success using other extruder brands, we wanted to work with a USA-based supplier for several reasons, including faster delivery of spare parts. We also wanted to take advantage of the technical and processing expertise that we knew ENTEK provided."

At NPE2018 in Orlando, FL, Jeff Goodwin and Ronda Haskell visited ENTEK's booth and saw ENTEK's live demonstration of a 5-minute screw change on their QC³-43mm twin-screw extruder. "They saw that the ENTEK QC machine features are better for operators, and makes their life easier," said John Deeken. "They also saw that the new 43mm machine was the perfect size for JEDA's needs for smaller lots of materials, and frequent color changes. After the show, we decided to make a trip to Oregon to meet with ENTEK's personnel and run trials in their Pilot Plant."

(continues on page 3)





A Message from Kim Medford, ENTEK's new President

Welcome to the latest issue of **Extrusion Solutions**.



Kim Medford

“Because of you, our customers, and our outstanding team of employees, ENTEK is on a growth journey and the opportunities are great.”

An Introduction

Hello! In late August I was humbled and honored to be named the new President of ENTEK Manufacturing.

They say we stand on the shoulders of those who came before us and I am very fortunate that each of my predecessors provide me with broad shoulders, making an excellent foundation to continue to build ENTEK Manufacturing as the best supplier to its customers. With that in mind I'd like to thank ENTEK's CEO, Larry Keith, and ENTEK Manufacturing's former President, Dr. Kirk Hanawalt, for their support and guidance. For over a decade, I have had the opportunity to work with both Larry and Kirk, first as outside counsel for ENTEK Manufacturing, and since 2012 in the role of Vice President & General Counsel and as a member of the executive management team. They have been instrumental in mentoring me to hit the ground running in my new role.

Because of you, our customers, and our outstanding team of employees, ENTEK is on a growth journey and the opportunities are great. We have a lot of exciting things happening, and I look forward to leading the company into the future.

2020: A Year Like No Other

It's an understatement to say that 2020 has been a difficult year. Like everyone in our country and around the world, we've had to deal with the COVID-19 global pandemic, which has brought enormous challenges. Here in Oregon we were also faced with wildfires this fall that burned down a large part of our state and threatened the health and safety of our surrounding communities and our employees.

Despite these challenges, ENTEK stood strong with our employees, suppliers and customers and is ready for 2021 stronger than ever. While COVID is still very much a part of our daily lives, we have stringent safety measures in place and continue to conduct business as usual to meet our customers' needs. I am so proud of

our teams for their resilience and commitment through the shifting challenges we faced during 2020.

In true ENTEK style, during the wildfire crisis, several of our employees volunteered at temporary shelters and food banks to help make sure that people displaced by the fires were cared for. As the need of our surrounding communities continues as people begin to take on the rebuilding process, our team continues to support this effort through several programs, including the ENTEK Employee Community Fund which provides new coats for kids in need in our local communities. Additionally, in about a week our teams will do what we do every year, which is to provide food boxes to the less fortunate in our community to ensure that they have a full meal to celebrate the Thanksgiving holiday.

In our last issue of *Extrusion Solutions*, Larry Keith said it best: 'ENTEK doesn't do things halfway.' We will continue to lead the way, in our community and in our industry.

In This Issue

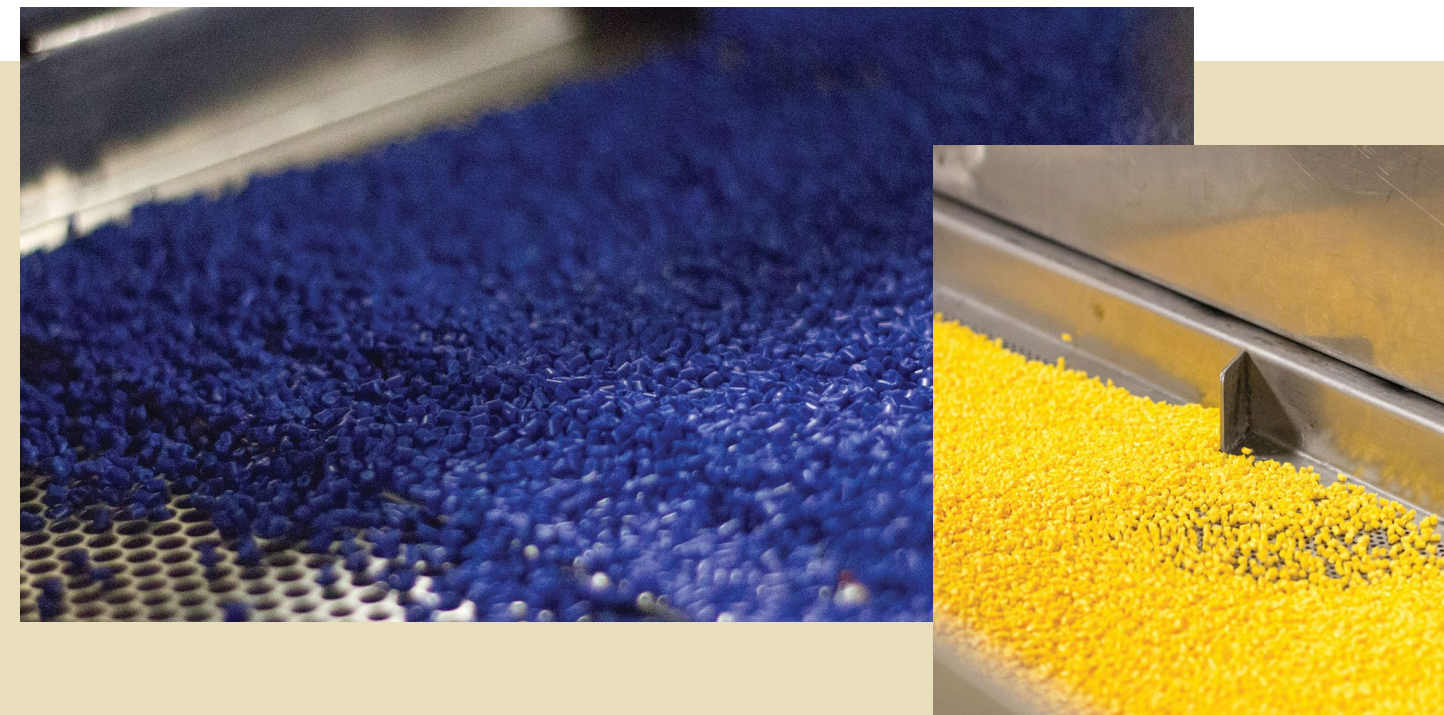
I hope you enjoy this issue of *Extrusion Solutions*, which features our cover story on our customer JEDA Polymers, and how ENTEK's technical processing expertise has helped them succeed; a feature on ENTEK's extruder rebuild services, and more.

Thank you to all of our customers for your continued support. I look forward to meeting many of you in the future. In the meantime, please stay safe and we wish you good health.

I encourage you to contact me anytime at kmedford@entek.com.

Sincerely,

Kim Medford
President



JEDA Polymers Chooses ENTEK

(continued from page 1)

Technical Challenges with Color Compounding

When compounding their materials, JEDA uses a unique, proprietary color process to make color changeovers faster, easier, and drive down their production costs. While JEDA's color process has advantages, it can also be challenging to process in a twin-screw extruder.

"We went to ENTEK looking to develop a stable process to run our proprietary formulation through the twin-screw extruder," said John Deeken. "It's important to find the best way – where, when, and how – to feed the formula into the machine."

When initial attempts didn't produce the desired results, ENTEK's Technical Processing Manager, Dean Elliott, came up with an idea for using ENTEK's new Vacuum Feed Technology (VFT) to optimize the process. It was discovered that VFT, which is designed for processing light fluffier materials, also worked well to pull out excess gas from JEDA's process.

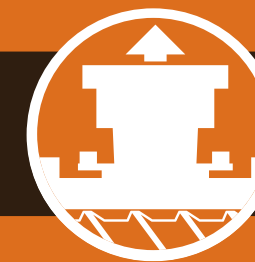
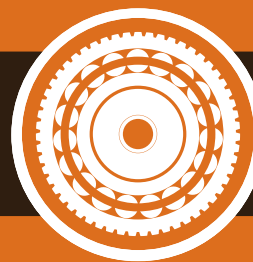
"We were using this formulation with our other extruders, but we really improved the process with ENTEK's machinery/technology," said John Deeken. "Their processing expertise was and is extremely valuable to us."

Service, Service, Service

JEDA purchased and installed an ENTEK QC³-43mm twin-screw extruder with VFT in 2019. While the machine meets or exceeds all their expectations, JEDA is most happy with ENTEK's customer service.

"Working with ENTEK is refreshing; their support team always follows up, and makes sure any and all issues are resolved," said John Deeken. "ENTEK's team provides impressive service and overall are a great technical partner; they want to ensure we are getting the most out of our machinery."





ENTEK Customer Support: REBUILD SERVICES

ENTEK is working to reduce cost of ownership for our customers by expanding our twin-screw extruder REBUILD, REFURBISHMENT and REPAIR SERVICES. Let us help you identify potential areas for improvement and schedule these services, which will save you time and money, and keep you up and running.

Barrels

We will work with each customer to evaluate your worn barrels, including coordination of the return, assessment of damage, needed repairs and potential for replacement of liners. In addition to cost savings over the lifespan of the barrels, rebuild services will save time, keeping your barrels working for you.

Gearbox Inspection & Rebuild – Extruder And Splitter Gearbox

Scheduled rebuilds of your gearbox prevent unplanned downtime, urgent failures and limit “fire drills” for your team. Let us help you create a plan, as part of your preventative maintenance routine. We will strive to have a rental gearbox available, as possible.

Melt Pumps

Complete rebuild and repair of your ENTEK melt pump is available on a scheduled or unplanned basis, following an evaluation and assessment by our technical staff. We will work with your team to assess your needs, including spares and a plan for preventative maintenance of your melt pump.

Contact us for more information by calling 541-259-1068 or email ENTEK_Customer_Support@entek.com



Understanding Vent Flow

Vent flow occurs when polymer and/or compound flow out of a vent opening preventing air/gases from escaping out of the extruder. Not only can vent flow cause product defects but it can create an undesirable mess and can sometimes be an operator's toughest challenge. It is highly recommended to use a wood or plastic tool to clear out a vent, using steel screw drivers/prybars or scrapers to clear out a vent opening can potentially cause a catastrophic failure when the metal tool is pulled into the extruder by the rotating screws.

The following situations describe when a vent is vulnerable to compound flow:

- When a vent is located near the exit of the extruder and the die or exit pressure is too high.
- When a vent is located upstream of and near a restrictive mixing element, for example, a reverse screw element or a neutral kneading block.
- When a formulation is altered during a production run and the compound viscosity is reduced.
- When the feed system is unstable, compound viscosity changes may occur.
- When starting the extruder, residual material in the extruder may act as a restriction along with typical start up instabilities and viscosity changes.
- When extruder torque suddenly rises significantly or is consistently high, this can be an indication that the fill level of the extruder is too high.
- When raising feeder throughput to the extruder without increasing the extruder screw speed, the fill level of the extruder increases.
- When using poorly designed or incorrectly installed vent inserts.

The following actions should be considered to minimize or mitigate vent flow:

- Increase extruder screw speed to reduce the fill level of the extruder and improve pumping efficacy.
- Lower feeder throughput to reduce the fill level of the extruder and reduce exit pressure.
- Replace worn screws and barrels located downstream of the vent to improve extruder pumping efficacy.
- Alter the pitch of the convey screw elements downstream of the vent and/or under the vent to one diameter pitch elements, in other words, for a 70mm diameter extruder the pitch would also need to be 70mm.
- If possible, increase the mesh size of filtration screens to reduce exit pressure.
- Increase the diameter of die holes and/or add more die holes to reduce exit pressure (die hole diameter has a more significant impact than number of die holes)
- For underwater pelletizing, purge out frozen die holes to reduce the exit pressure. Also, if possible, raise the temperature of the water to reduce exit pressure and minimize the risk of freezing die holes. During a formulation transition, consider diverting to purge to reduce exit pressure.
- Increase the temperature of the die and adaptors to reduce exit pressure.
- For a vacuum vent, if possible, lower the level of vacuum.
- If possible, alter the screw configuration and move restrictive mixing elements further downstream from a vent.
- If possible, monitor the vent during an initiated process change or as quickly as possible during an unexpected process change.
- The vent opening is located above the correct screw. It should be above the screw side that is rotating downward not the screw side that is rotating upward.
- The vent insert is bolted down evenly with equal torque applied to each bolt.
- Stabilize feeder/s by checking feeder settings, calibrations and sizing the feeder screw and tube correctly.
- Purge out residual material at start up. Start the extruder at higher than targeted screw speed and/or lower than targeted throughput. Monitor the vent during start up. Once stabilized, alter set points to targeted screw speed and throughput.

(continues on page 6)

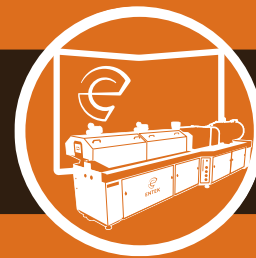


Dean Elliott
Technical Processing Manager





We Are ENTEK



Understanding Vent Flow

(continued from page 5)



Blocked Vent



Open Vent

A clear or better understanding of what causes vent flow and when the extrusion system is vulnerable to vent flow could prevent or provide a rapid response to a vent flow situation. Running a lower vacuum to prevent vent flow may not always be an option. Installing a vent stuffer allows higher vacuum draw, vent stuffers act like a pump preventing the polymer/compound from escaping the extruder while allowing volatiles to escape.



Upcoming Events

We are hopeful that in-person conferences and shows will be taking place again in 2021. With that in mind, ENTEK is scheduled to exhibit at the following events. We hope to see you there!

Plastics Recycling Conference
May 3-5, 2021
Washington DC



NPE 2021
May 17 – 21, 2021
Orlando, FL
Booth W3981



NPE2021
The Plastics Show

Compounding World Expo
Nov. 3 – 4, 2021
Cleveland, OH



Who to Contact

ENTEK

PO Box 39,
200 Hansard Avenue
Lebanon, OR 97355
Tel. 541-259-1068
FAX 541-259-8018
www.entek.com

Kim Medford
President
E-mail: kmedford@entek.com

Linda Campbell
Vice President - Sales
E-mail: lcampbell@entek.com

Tammy Straw
Marketing and Business
Development Manager
E-mail: tstraw@entek.com

Dean Elliott
Technical Processing Manager
E-mail: delliott@entek.com

Jennie Norris
Sales Project Coordinator
E-mail: jennie.norris@entek.com

Darla Bulmer
Customer Support Manager
E-mail: dbulmer@entek.com

Kelsey Dennis
Customer Support Specialist
E-mail: kdennis@entek.com

Mike McDaniel
Customer Support Associate
E-mail: mmcdaniel@entek.com

North America

Bill Petrozelli
Regional Sales Manager
Tel. 541-259-1068
E-mail: bpetrozelli@entek.com

Austin Lindsey
Regional Sales Manager
Tel. 541-259-1068
E-mail: alindsey@entek.com

Al Bailey
Sales Engineer
E-mail: abailey@entek.com



RAISING EXPECTATIONS. KEEPING THEM THERE.

EXTRUSION SOLUTIONS is an ENTEK publication. Visit us at www.entek.com



Connect with Us
on LinkedIn



Follow Us on Twitter
[@ENTEK_Extruders](https://twitter.com/ENTEK_Extruders)



NOVEMBER 2020 PAGE 6