

**"RD" Series  
EXTRUDER RUPTURE DISC  
Technical Considerations & Installation Instructions**



**Operating & Design Overview**

An "extruder" rupture disc is a pressure relief device used to protect plastic extrusion equipment and operating personnel from a potentially dangerous overpressure condition. If the pressure in the extruder barrel exceeds the rated burst pressure, the rupture disc relieves the pressure in a controlled way. After bursting, the extruder rupture disc device must be replaced in order to maintain system protection.

### General Specifications

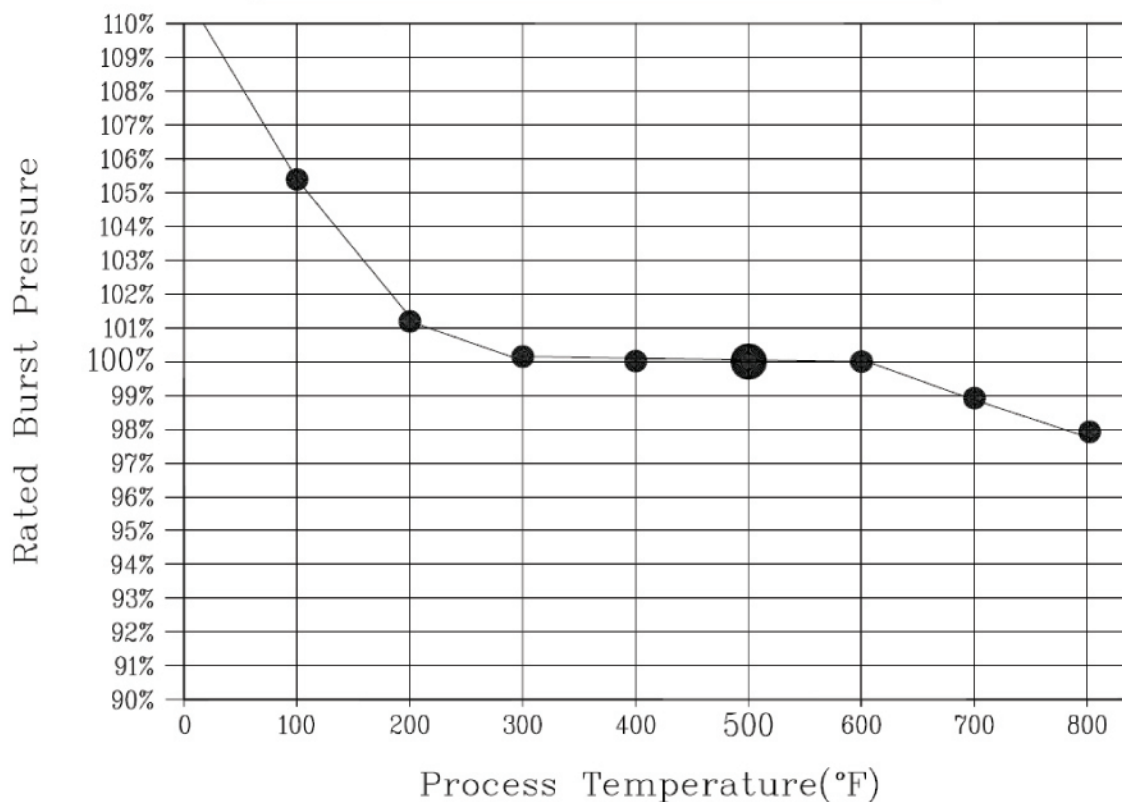
|                        |                                                 |
|------------------------|-------------------------------------------------|
| <b>Body Material</b>   | 304 SS                                          |
| <b>Disc Material</b>   | Inconel 600 or 316 SS                           |
| <b>Disc Size</b>       | Standard - 3/16", 5/16" with 3/4 -16 UNF thread |
| <b>Burst Pressure</b>  | As individually stamped coincident @ 500 °F     |
| <b>Burst Tolerance</b> | +/- 5%                                          |

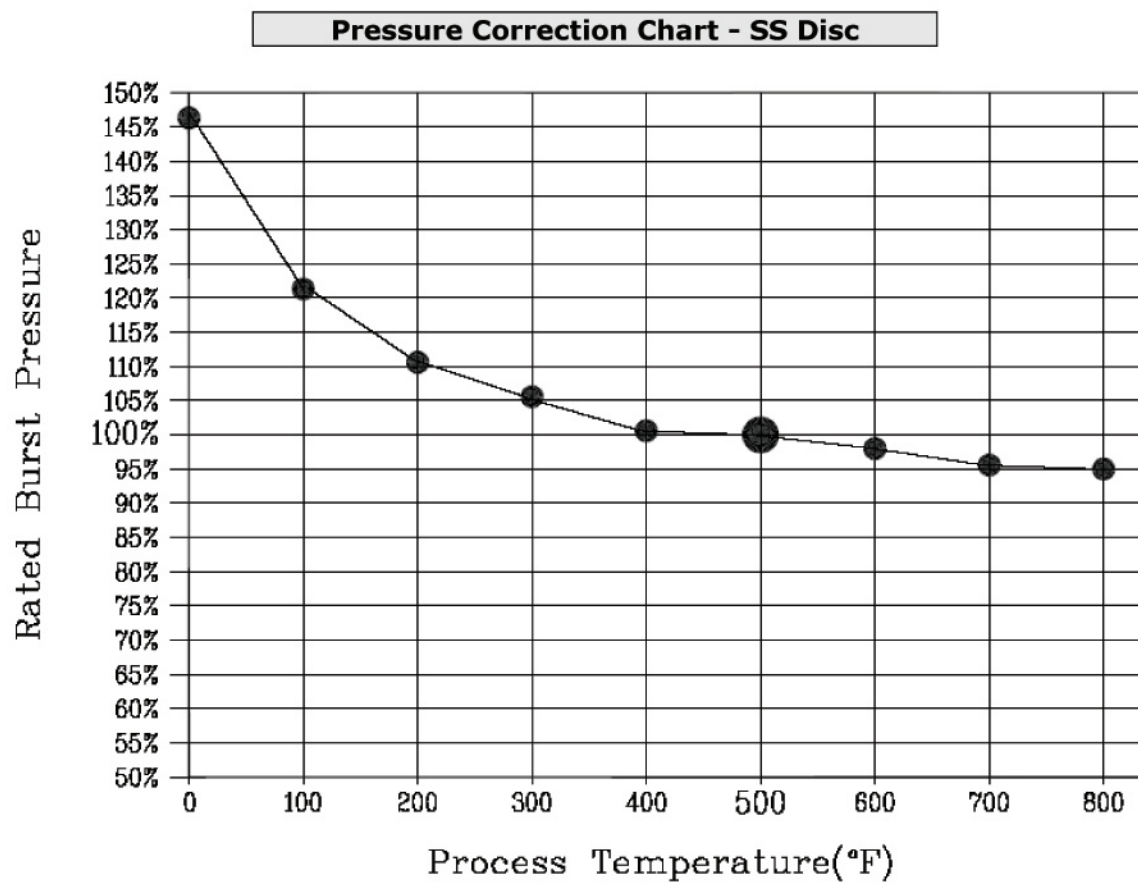
### Coincident Temperature Considerations

**Warning:** IT IS THE USERS SOLE RESPONSIBILITY TO SELECT THE BURST PRESSURE RATING OF A RUPTURE DISC AT A COINCIDENT TEMPERATURE AT WHICH THE RUPTURE DISC IS TO BE USED. A RUPTURE DISC IS A TEMPERATURE SENSITIVE DEVICE. THE BURST PRESSURE OF THE RUPTURE DISC IS DIRECTLY AFFECTED BY ITS EXPOSURE TO THE INCIDENT TEMPERATURE. GENERALLY, AS THE TEMPERATURE AT THE DISC INCREASES, THE BURST PRESSURE DECREASES, INVERSELY, AS THE TEMPERATURE AT THE DISC DECREASES, THE BURST PRESSURE MAY INCREASE. FAILURE TO PROPERLY UTILIZE A RUPTURE DISC AT THE SPECIFIED COINCIDENT TEMPERATURE COULD CAUSE PREMATURE RUPTURE OR OVERPRESSURIZATION OF A SYSTEM.

The coincident temperature of the ONEhalf20 "RD" series Extruder Rupture Discs is 500 °F.

**Pressure Correction Chart - Inconel Disc**





### Rupture Disc Seating

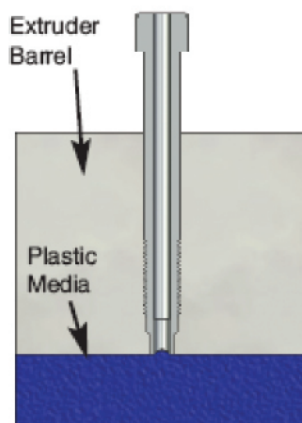
**Warning:** AN EXTRUDER RUPTURE DISC IS A PRECISION DEVICE AND MUST BE INSTALLED PROPERLY. RUPTURE DISCS MUST BE INSTALLED BY TRAINED KNOWLEDGEABLE INSTALLERS AND ONLY WITHIN THE ENVIRONMENTS SUITABLE AND APPROPRIATE FOR A RUPTURE DISC.

THERE IS NO GUARANTEE OF A RUPTURE DISCS LIFE. SUCH LIFE SPAN IS AFFECTED BY CORROSION, CREEP AND FATIGUE, AS WELL AS PHYSICAL DAMAGE. THESE CONDITIONS WILL DERATE THE RUPTURE DISC TO A LOWER BURST PRESSURE. THE CUSTOMER AND OR USER SHOULD BE PREPARED FOR PREMATURE FAILURE OF THE RUPTURE DISC.

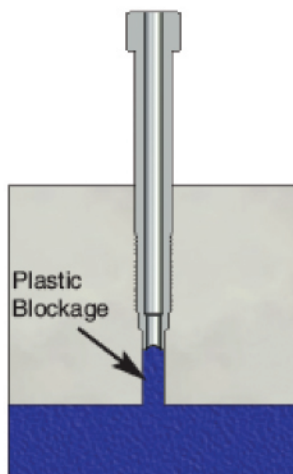
THE MEDIA OR OTHER ENVIRONMENTAL CONDITIONS SHOULD NOT ALLOW ANY BUILD UP OR SOLIDIFICATION TO OCCUR ON A RUPTURE DISC. THIS MAY INCREASE THE BURST PRESSURE OF THE RUPTURE DISC.

**PROPER SEATING OF THE RUPTURE DISC IS IMPERATIVE:**

#### Correct Seating – Flush with the Extruder Barrel



#### In-Correct Seating - Creates Blockage



### Installation

1. The Rupture Disc assembly is a precision instrument and must be handled with extreme care. Rupture Disc assemblies should be installed only by qualified personnel familiar with rupture discs.
2. Inspect the mounting hole before installing to insure proper installation and prevent any chance of leakage. The mounting hole should be cleaned of any residual polymer; ONEhalf20 mounting hole cleaning tool kit can be used part number CLEANKIT-1/2-20.
3. Insure that the stamped burst pressure of the rupture disc is appropriate for the system operating conditions.
4. Inspect the disc area carefully to insure that the rupture disc has not been damaged.
5. Thread the rupture disc into the mounting hole by hand until fully seated and then torque to approximately 100-200 inch pounds. This can generally be accomplished after hand tightening with a quarter or half turn of a wrench.



## WARNING

**IT IS IMPERATIVE THAT THE RUPTURE DISC BE INSTALLED IN A POSITION TO INSURE THAT ANY DISCHARGE OF HOT POLYMER UPON BURSTING OF THE DISC OR PREMATURE FAILURE OF THE DISC DOES NOT CREATE A HAZARD TO PERSONNEL OR PROPERTY.**

### Technical Support