ZEON CORPORATION

ZEONREX Electronic Chemicals

Ultra High Temperature Resistant Material

ZPN2464

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Any process conditions and data are examples.
Those will not guarantee the same data in customers' process.

CONTENTS

1. Characteristics

ZPN2464 is Ultra high temperature resistant , photosensitive (Negative type)structual

(1) Easy process (Same as normal photoresist)

(2) Shows ultra high temperature resistance.
(Keep original pattern profile)

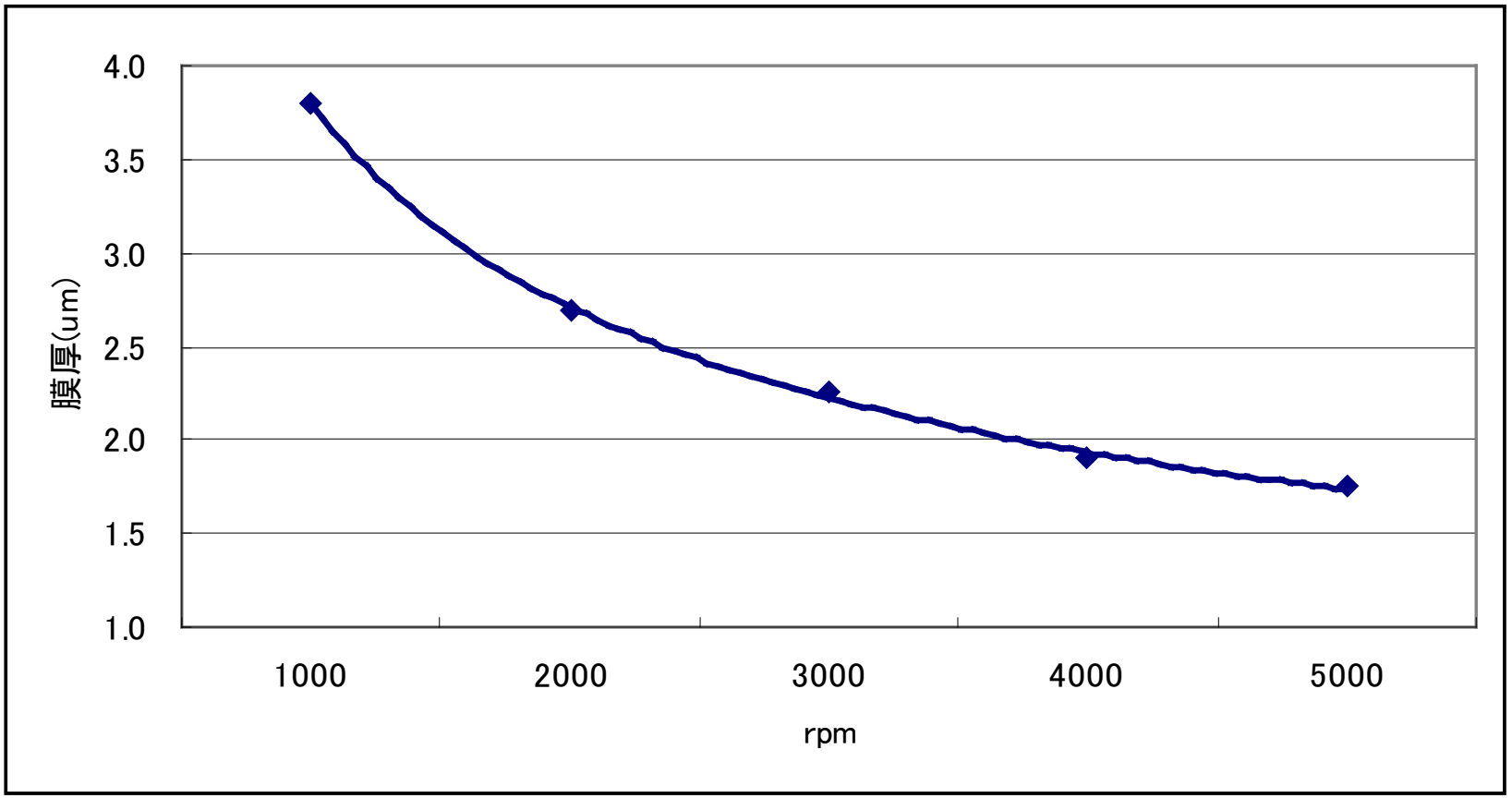
(3) Shows unique pattern profile (anti - taper profile) .
by simple process.
(Example of application , OLED cathod separater)

(4) Shows very low outgas compared with conventional material

(5) Dielectronic constant is 3.38 at 1 MHz.

1-2. Spin Curve

ZPN2464 (27 cP)

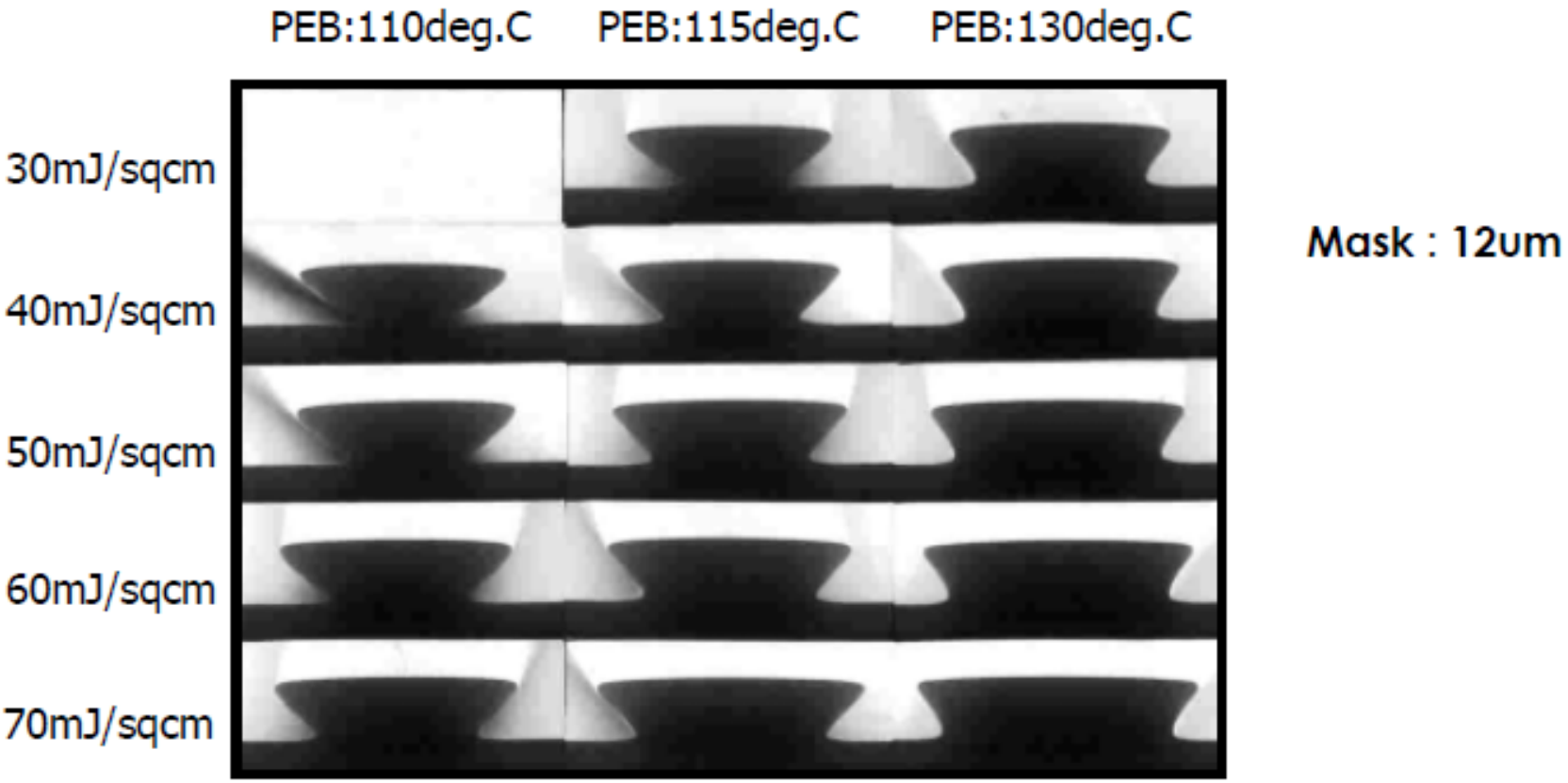


1-3. Example of Process Condition

- **Coating (Spin , Slit Coating) , Film Thickness 3 - 4 um**
- **Soft Bake (100 - 110 ℃ * 90 - 110 sec.)**
- **Exposure**
- **Post Exposure Bake : 115 ℃ * 60 sec. Hot Plate**
- **Development : 2.38 % TMAH , Puddle 60 - 70 sec.**
- **Rinse : DI , Air Dry**
- **Hard Bake : 200 ℃ - 230 ℃ * 30 - 60 min. (Oven)**
  2 - 3 min. (Hot Plate)

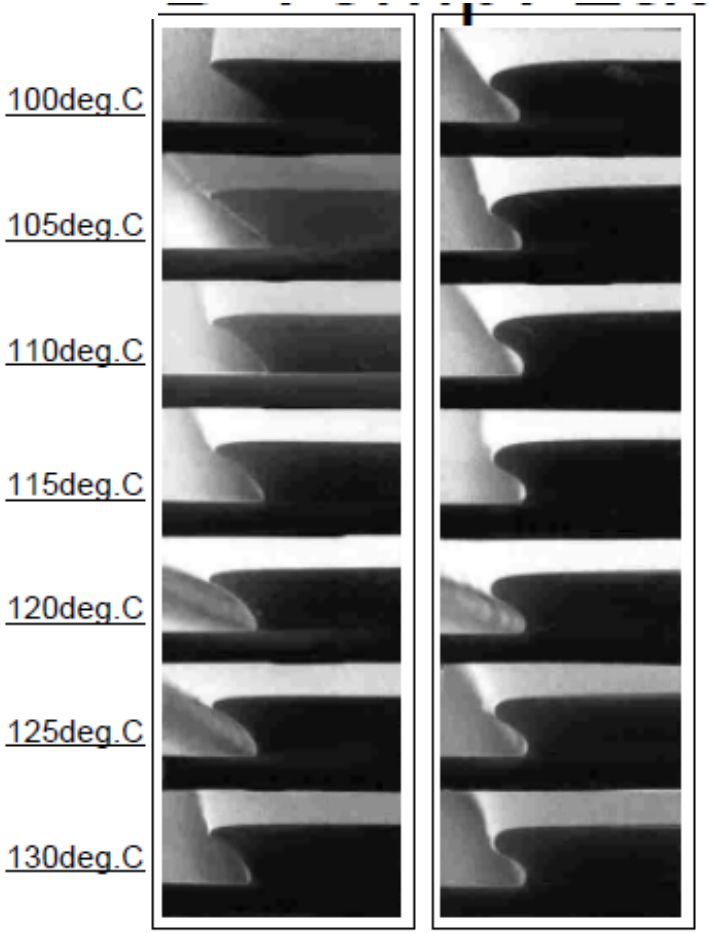
1-4. Pattern Profile (Effect of exposure dosage)

Film Thickness : 3.0 μm

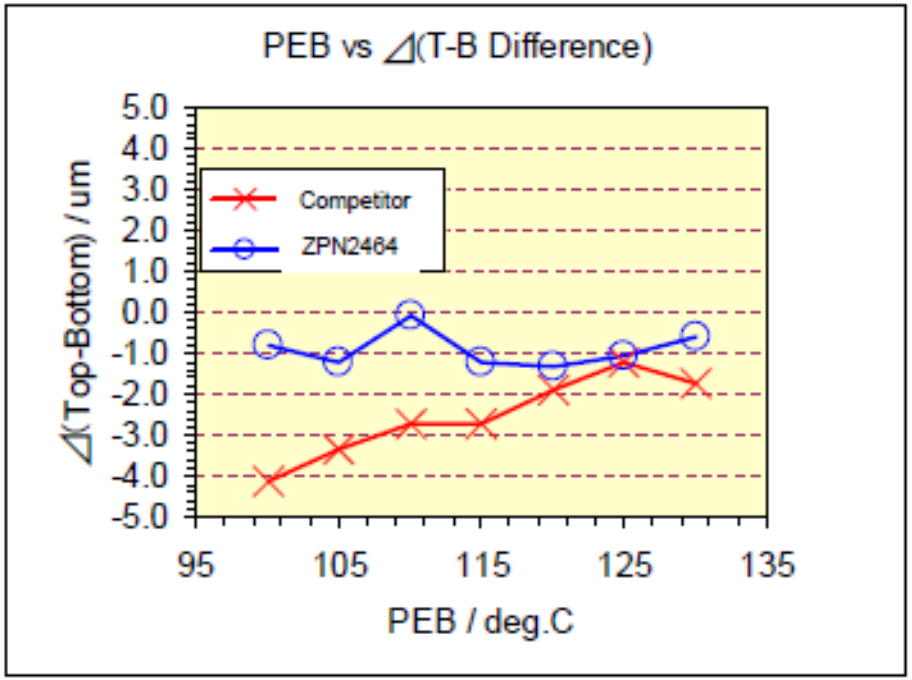


1-5. Pattern Profile (Effect of PEB condition)

Film Thickness : 3.0 μm



ZPN2464 **Conventional**

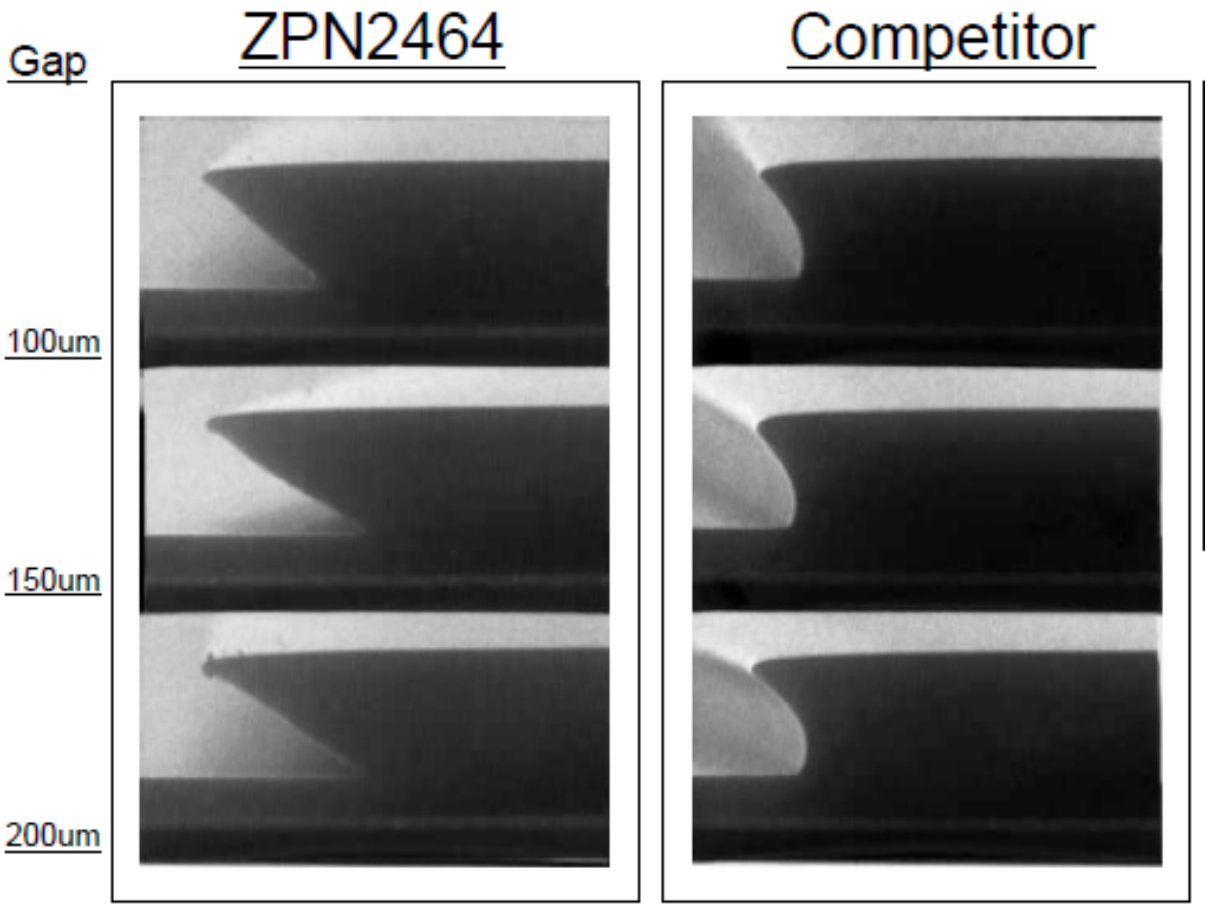


Patern Change is small by changing PEB Condition.

PEB → Hot Plate (X ℃ * 60 sec.)

1-6. Pattern Profile (Effect of Mask Gap)

Film Thickness : 3.0 μm



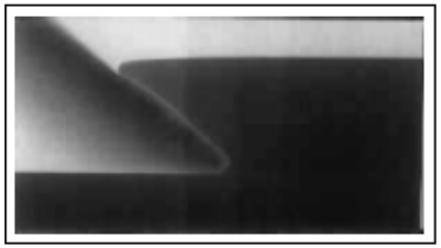
Mask Gap bigger → Taper becomes acute

Exposure : Proxymity Type

2-1. Thermal resistance

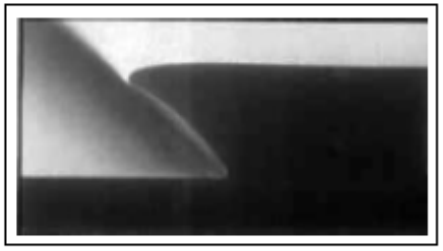
Film Thickness : 3.0 μm

ZPN2464 keeps original pattern profile over 300 ℃

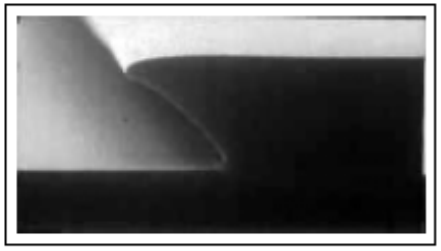


W/O baking

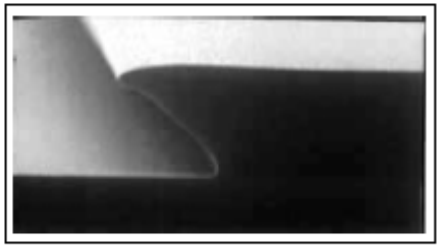
20μm pattern



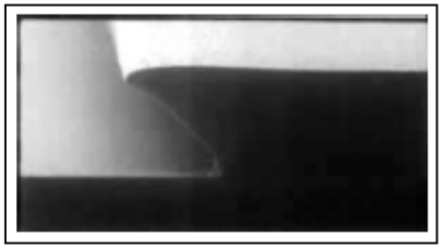
200deg.C, 3min.



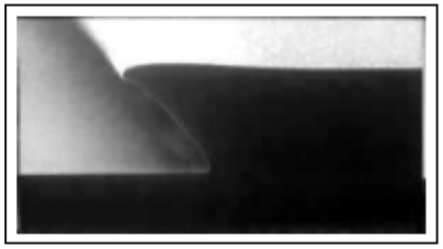
200deg.C, 5min.



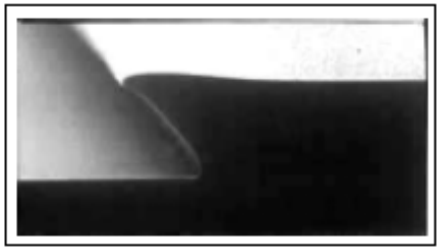
240deg.C, 5min.



280deg.C, 5min.



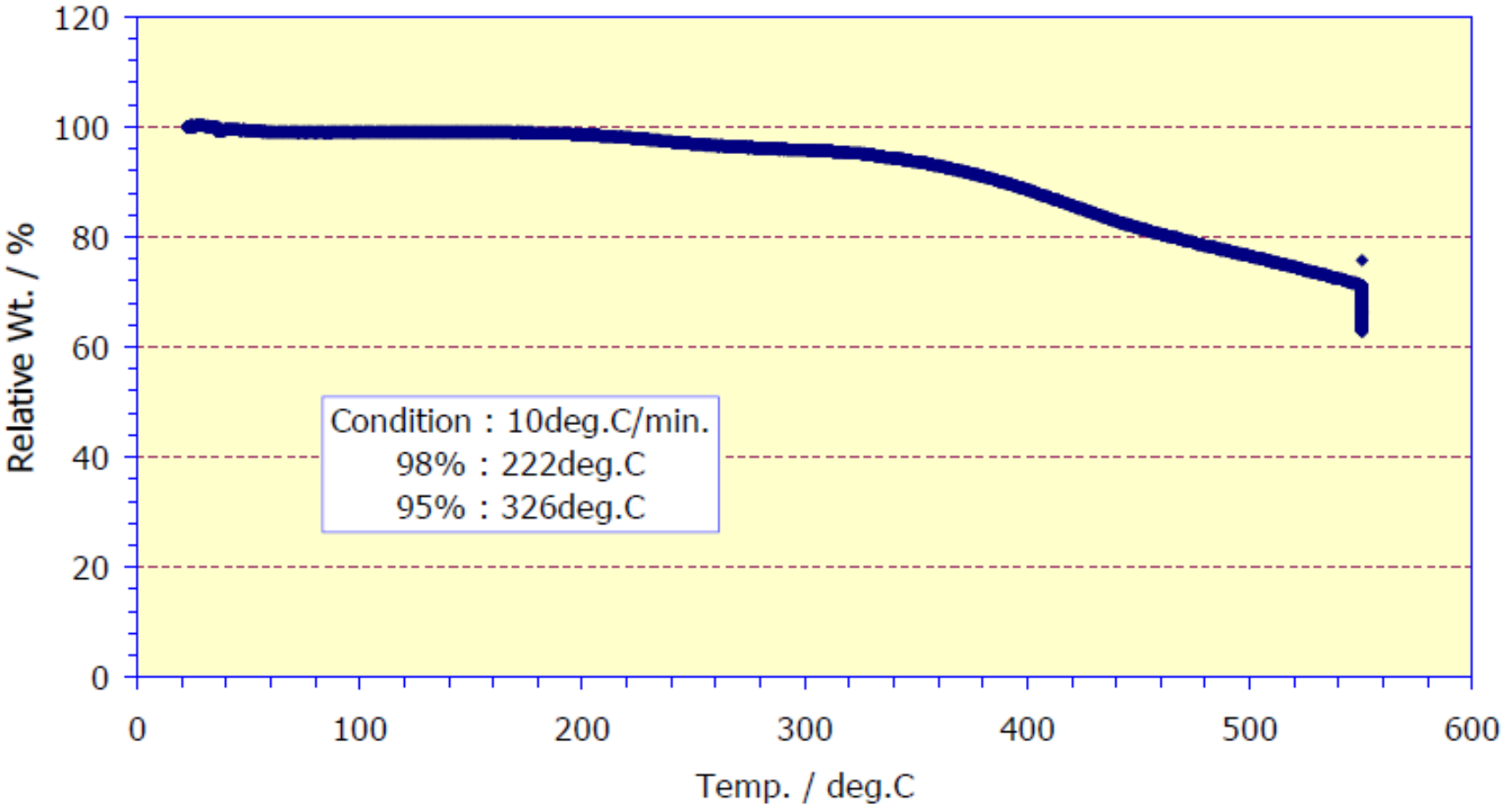
320deg.C, 5min.



360deg.C, 5min.

2-2. Thermal resistance (Themal degradation)

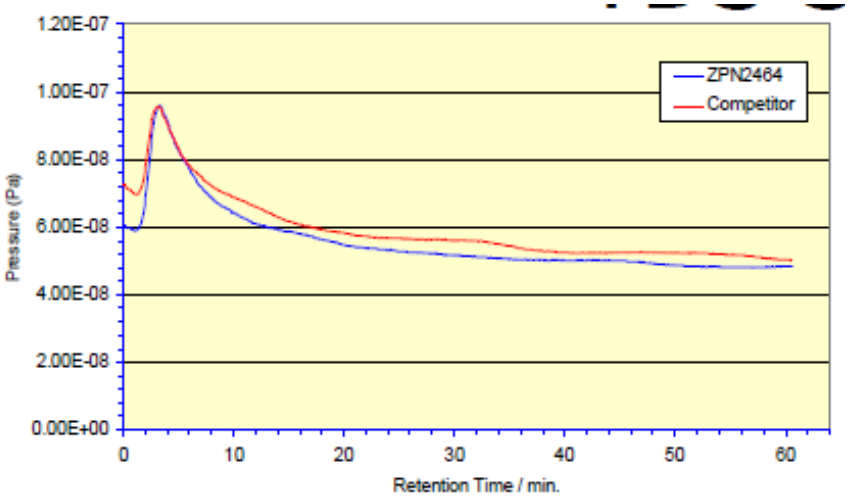
Film Thickness : 3.0 μm



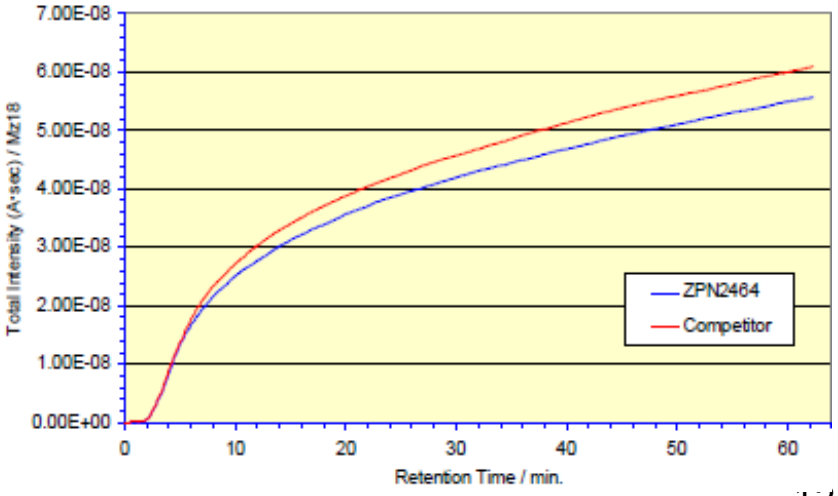
3. Outgas (TDS)

Keeping Temperature

200 ℃ * 60 Min.



Mz 18



Outgas is smaller compered with conventional materials