

Product Application

TechniStrip®D350 is a versatile non-alkaline chemistry addressing resin lift off, metal lift off and positive tone resist removal in the microelectronics industry. The organic mixture blend has the particularity to offer high metal and material compatibility allowing to be used on a wide range of stacks and substrates, most particularly on fragile III/V and organic materials.

TechniStrip®D350 offers a nonhazardous alternative for NMP and DMSO/Amine strippers. It is based upon an organic solvent blend that can be tuned to meet customer process specifications; temperature, time, metal compatibility, fast lift off, high dissolution rate, low metal ions, low smell, non- corrosive to sensitive materials, CMR free, direct water rinse, etc....)

Few applications :

- NMP, DMF, DMSO/TMAH alternatives
- Positive resin tone stripping
- lift-off process to pattern metals and dielectrics
- Reworking
- Adhesive removal

Physico-Chemical properties

State: Uncolored Liquid blend Impurity level: < 500ppb

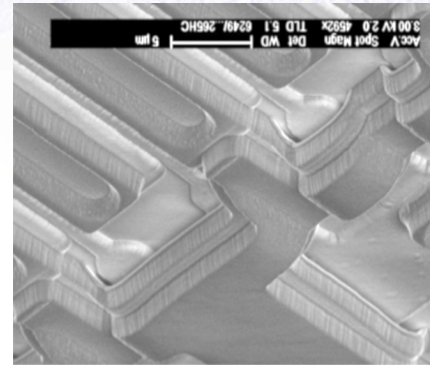
Water Solubility: fully miscible

Conductivity : 20°C-3x10(-8) ohm-1 cm-1, 80°C -7x10(-8) ohm-1 cm-1

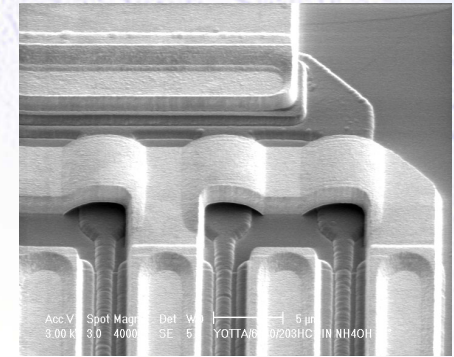
dynamic viscosity is 1,996 cP @20°C

General Process information

Process requirement: 55°C to 90°C



Before



after 20min, 75C

Material compatibility

ER in A/min @ 65°C	Static Immersion	Batch Spray
Al(5%Cu)	<2	<1
Cu (PVD)	<2	<1
Cu (ECD)	<2	<1
Ni	<1	<1
Ta/TaN	<1	<1
Ti/TiN/TiW	<1	<1
Au, Sn, Ag	<1	<1
Thermal SiO2	<1	<1
Undoped Si	<1	<1

* 4points probe measurement on blanket wafers. ** Spectroscopic ellipsometer on blanket wafers. ***Solution ICPMS after 48 hrs immersion

COMPATIBILITY TechniStrip® D350					
AFLAS® TFE	B	PE (HD)	A	PVC	D
Buna-N	D	PEEK	B	PVDF	D
Chemraz®	A	Poly carbonate	D	P-styrene	B
CPVC/ETFE	B	PMP	A	P-sulfone	D
ECTFE	A	PFA	A	Simiriz	A
EPDM	A	PES	B	Silicone	D
HDPE	A	PP	A	Stainless steel 316i	A
Halar	A	NBR	B	Teflon FEP	A
Kalrez	A			Viton ET	D
Nylon	B	PTFE	A	Viton FKM	D

Static immersion @70°C for 5 days

A fully compatible, B Noticeable change, C visible & D severe effect

On request, additional materials can be tested for compatibility

Equipment

TechniStrip®D350 can be used in batch immersion, batchspray and single wafer wafer platforms equipment.

Bath life and storage

To maintain optimal cleaning performance over 144Hr, it is recommended to work within closed systems (capped batch, spray tools). The solution can be reclaimed.

TechniStrip®D350 temperature must be kept on all time above 17C to prevent crystallization to occur.

The solution must be temperature controlled during transportation and storage as required to most of DMSO based solution. Alternatively, TechniStrip MicroD2 is offering an alternative in terms of performance and low melting point. Melting point of MicroD2 is around 0°C and therefore would not require any temperature-controlled transportation and storage during winter seasons and at cold locations.

Quality

Technic' solutions are formulated using high purity and quality raw materials to ensure low ppb metal levels and particulate count. The full manufacturing process is in accordance with the company quality policy.

Health, Safety and Environment

To obtain comprehensive information on the safe use and handling of the TechniStrip®D350, a material safety data sheet is available on request. **Technic' safety policy is to promote safer chemical to the industry in accordance to latest European regulation and Customer' chemical banned substance list.**

Contact

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General Process information

Process requirement: 40°C to 90°C

Process Time: <30min

Equipment: in immersion, batch spray &/or Single wafers

Direct water rinse

Bath life: >72 hours up to few weeks

Flow rate: 3-12/min

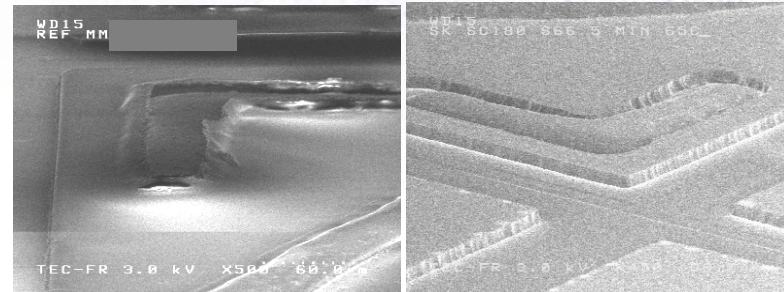
Depending on process tool and residues

May require high flow nozzles in batch spray

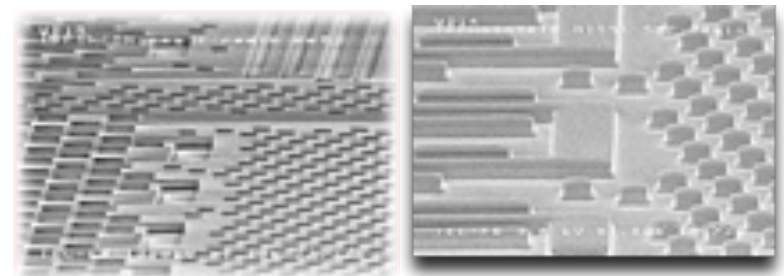
Standard process for Automated Spray Tool Application:

Step	Time	RPM	Process	Source	Drain
1	0:05	35	Warm-up	chamber	Waste
2	0:15	100	Chemistry-reclaim to drain	T1	Waste
3	5 to 30 min @ T process	150	Chemistry- reclaim to solution Tank 1 May require filters, especially for metal and resin lift off processes	T1	T1
4	0:10	500	gas purge to reclaim	N2	T1
5	0:05	500	Chamber to drain	chamber	Chm 1
6	5:00	500	Cold DI water rinse to drain – high flow	QDR	Waste
7	2:00	1200	N2 dry/purge (M3 heated), Dry Hi	N2	Waste
8	5:00	600	N2 dry low (M3 heated)	N2	Waste

SEM Micrographs on Customer' features



Stripping N tone resin on GaAs- Lift off in automotive immersion tank and Soak& spray



Stripping of P tone – full dissolution on Batch spray