Incure™
ADHESIVES, EPOXIES AND COATINGS

## Section One Company Profile

- Mission Statement
- Core Competencies

## Section Two Advancement in UV Technology

- Wide Offerings & Specialty Chemicals
- UV curing Equipment, Measurement & Control
- Matching Chemistry

## Section Three The Incure Experience

- IncureDirect™
- IncureConsult™
- IncureCollaborate™
- IncureLab™
- IncureRental™ Program



MADE IN USA

Listen • Understand • Solve

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# Mission Statement

We **listen** to you, deliberate and **understand** your needs before making every attempt to **solve** your application needs.

**Chemistry-match** the right material, equipment and process to your application matters to us and gives us our sense of achievement.


We are a **research company** committed to the development of advanced UV technologies for bonding, coating and sealing solutions.

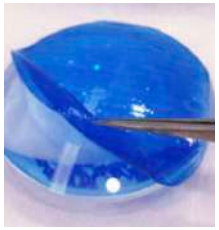

We are committed to produce the highest quality and service for our clients and to dedicate ourselves to **integrity, honesty, fairness** and **responsibility**.

# Core Competencies

- More than **50 years** of combined experience in the formulation of advanced UV/visible light curing adhesives.
  Team of **certified** application consultants and **experienced** applications development engineers to support end-users, partners and distribution networks.

- **Wide selection** of products available for
  Medical, optical, electronics, automotive, jewelry, aerospace, construction and industrial use.
  Specific applications -bonding, coating, encapsulating, gasketing, sealing and masking.

- **Matching-Chemistry™**
  A practical and professional approach to successful implementation of UV curing in terms of cost, efficiency and quality excellence and environmental consciousness.
  Adhesive selection, Curing equipment, Dispensing and Curing processes, Maintenance and Control are all instrumental in designing a robust solution to complicated/unique applications.

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# Advancement in UV Technology

1. Rapid fixture and full cure in seconds
2. Tack-free time
3. Choice of sleek, tack-free or tacky surface
4. Ease of shipment (Non-DG) & storage (room temperature)
5. Cost savings (energy, process time, space, manpower)
6. In-line inspection, fluorescing and color-change capabilities
7. Cure-On-Demand facilitates alignment positioning
8. 100% solids, solvent-free, no volatiles
9. Viscosity variation (25 - 2,000,000 cP)
10. Tensile: Up to 12,000 psi (substrates failure for plastics)
11. Elongation: Up to 1,500%
12. Hardness Range: A5 to D95
13. Quad-Cure™ for 4 different cure methods
14. Multi-Substrates for bonding dissimilar substrates (metals, plastics etc)
15. Low surface energy (30 - 36 dynes) material (thermoplastic elastomers (TPE) bonding

# Wide Offering of Bonders, Sealants and Coating Materials

Incure manufacture and offer a wide range of medical grade (compliant to ISO 10993-5) and industrial grade (UL & RoHS compliant) adhesives, epoxies, encapsulates, masks and coatings

- BlueBond™ Low-energy UV cure bonders
- Cast-Max™ Stereolithography Adhesive (SLA) 3D Resins
- Cyro-Weld™ Medical Grade UV/Visible Light Curing Adhesives & Cyanoacrylates
- Encap™ Encapsulant for electronics assemblies
- Epo-Weld™ Single Component & Two-Part Epoxies
- LiteMask™ UV Masks - Acrylic Urethanes Ultra-clean, Temporary/Permanent Masks
- Optik™ UV/Visible Light Curing Optical Adhesives
- Pyra-Sil™ UV and UV/Moisture Dual-cure Silicones
- UHTE™ Ultra-High Temperature Expoxies
- Ultra-Illumina™ Dual-Cure Conformal Coatings
- Uni-Seal™ Form-In-Place Gaskets (FIPG) and Sealants

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# Cyro-Weld™ 5000 Medical Series

Specialty Chemicals

| Flag-Ship Products<br>Web Highlights | Cyro-Weld™ 5004 | Cyro-Weld™ 5004F | Cyro-Weld™ 5005 | Cyro-Weld™ 5013F | Cyro-Weld™ 5017 | Cyro-Weld™ 5020 | Cyro-Weld™ 5020F | Cyro-Weld™ 5021F | Cyro-Weld™ 5040 |
|---|---|---|---|---|---|---|---|---|---|
| Type of Bonder | High Performance Plastics | High Performance Plastics | High Strength Plastics | High Strength Plastics | Multi-Substrates (High Strength Plastics) | Multi-Substrates | Multi-Substrates | Multi-Substrates (High Strength Plastics) | Multi-Substrates (Plastics) |
| Type of Cure - Product Title | UV/Visible/LED Curable High-Strength Low Shrink Medical Bonder | UV/Visible/LED Curable High-Strength Fluorescing Medical Bonder | UV/Visible/LED Curable High Strength Low Shrink Medical Bonder | UV/Visible/LED Curable High-Strength Fluorescing Medical Bonder | UV/Visible/LED Curable Superior Multi-Substrate Medical Bonder | UV/Visible/LED Curable Multi-Substrate Low Shrink Medical Bonder | UV/Visible/LED Curable Multi-Substrate Low Shrink Medical Bonder | UV/Visible/LED Curable Multi-Substrate Low Shrink Medical Bonder | UV/Visible/LED Curable Multi-Substrate Low Shrink Medical Bonder |
| Competitive Products (Products offered with similar properties. Users should test to confirm suitability) | Dymax 181-M<br>Tangent 7551<br>Vitralit 9181-4000 | Dymax 181-M<br>Tangent 7551<br>Vitralit 9181-4000 | Tangent 7989-V | Dymax 20163 | 3393 | Dymax 182M<br>Dymax 182M-ULW<br>Dymax 101-MSK<br>Tangent 7090-V | Dymax 182M<br>Dymax 182M-ULW<br>Dymax 101-MSK<br>Tangent 7090-V | Dymax 1180-M<br>Lower viscosity of Loctite 3311 | Dymax 182M<br>Dymax 182M-ULW<br>Dymax 101-MSK<br>Tangent 7041 |
| Surface After Full Cure ²ISTM D189 | Tack-Free | Tack-Free | PSA-Feel | Slight Tack | Slight Tack | Tack-Free | Tack-Free | Grippy | Tack-Free |
| Tack-Free/Full Cure Surface using F200P (UVA 150mW/cm²) / L9300 (UVA 2,800mW/cm²) | 30s / 3s | 30s / 3s | 1s / 1s | 3s / 1s | 4s / 1s | 20s / 2s | 20s / 2s | 1s / 1s | 4s / 1s |
| Glass Fixture Time F200P (UVA 150mW/cm²) | 1s | 1s | 1s | 1s | 2s | 1s | 1s | 1s | 1s |
| Color / Appearance | Single Component Slight Yellow Tint | Single Component Slight Yellow Tint, Fluorescing | Single Component, Clear | Single Component Slight Yellow Tint | Single Component Amber | Single Component, Slight Yellowish Tint, Clear | Single Component, Slight Yellowish Tint, Fluorescing | Single Component, Clear | Single Component, Slight Yellowish Tint, Clear |
| Viscosity cP@20rpm ASTM D2556 | 1,500 - 3,500 | 1,500 - 3,500 | 3,500 - 5,500 | 900 - 1,400 | 7,000 - 12,000 | 40 - 100 | 40 - 100 | 100 - 200 | 80 - 180 |
| Shore Hardness ASTM D2240 | D70 to D80 | D70 to D80 | D51 to D61 | D74 to D84 | D60 to D70 | D77 to D87 | D77 to D87 | D68 to D78 | D80 to D90 |
| Linear Shrinkage ²ISTM D2566 | 0.60% | 0.60% | 0.03% | 0.50% | 0.10% | 0.10% | 0.10% | 0.10% | 0.10% |
| Water Absorption ASTM D570 | 1.10% | 1.10% | 4.40% | 0.30% | 0.50% | 1.50% | 1.50% | 0.50% | 1.60% |
| Tensile Strength (PSI) ASTM D638 ^ - Substrate Failure * - PC-PC / SS-SS / S-S / AL-AL — PC-PC | 10,800^ | 10,800^ | 6,900^ | 6,300^ | 6,900^ | 2,900 | 2,900 | 7,000^ | 6,900^ |
| PC-SS | 600 | 600 | 3,400 | 2,200 | 3,900 | 2,700 | 2,700 | 5,200^ | 3,200 |
| PC-S | 1,000 | 1,000 | 3,500 | 1,200 | 4,800^ | 2,700 | 2,700 | 5,400^ | 3,600 |
| PC-AL | 1,300 | 1,300 | 3,200 | 3,400 | 5,400^ | 2,300 | 2,300 | 4,200 | 3,800 |
| Elongation at Break ASTM D638 | 60% | 60% | 812% | 73% | 913% | 1% | 1% | 82% | 1% |
| Temp. Resistance ²ISTM D366 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 |
| Young's Modulus MPa ASTM D638 | 198 | 198 | 14 | 243 | 7 | 1,916 | 1,916 | 82 | 749 |
| Glass Transition Tg °C ²ISTM D366 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Average Linear CTE ²ISTM D696 | 96 | 96 | 123 | 96 | 119 | Not Available | Not Available | 87 | Not Available |
| Product Highlights (Functions/Specialty) | Ultrafast curing, medium viscosity, very high strength medical bonder for reservoir/catheter/ pressure transducer/ oxygenator assemblies. Formulated to meet ISO 10993-5. Passes EtO & gamma sterilization. | Ultrafast curing, medium viscosity, very high strength fluorescing medical bonder for reservoir/catheter/ pressure transducer/ oxygenator assemblies. Formulated to meet ISO 10993-5. Passes EtO & gamma sterilization. | High-strength multi-substrate bonder. For medical devices with demanding applications. Offers adaptability, strength and rapid cure. Tough-yet-flexible material with high reliability. Passes EtO and gamma sterilization. | Ultrafast curing, medium viscosity, very high strength fluorescing medical bonder for reservoir/catheter/ pressure transducer/ oxygenator assemblies. Formulated to meet ISO 10993-5. Passes EtO & gamma sterilization. | Multi-substrate (metals/ glass/plastics), high strength bonder for rigid plastic fittings to flexible tubings (elastomers). Low shrinkage and water absorption. Superior passive vibration absorption capability. | Medical grade, very low viscosity bonder for respiratory face masks and needle-bonding. Bonds well to plastics (PVC/PC/PU), glass and metals. Bonding of dissimilar substrates with varying elasticity. | Medical grade, very low viscosity bonder for respiratory face masks and needle-bonding. Bonds to plastics, glass and metals. Bonding of dissimilar substrates with varying elasticity. Fluoresces for quality inspection. | Low viscosity, multi-substrate bonder for most plastics, metal and glass. Ideal for needle/reservoir/ catheter/transducer assemblies in the medical industry. Formulated to meet ISO 10993-5. Passes EtO & gamma sterilization. | Medical grade, low viscosity bonder for respiratory face masks and needle-bonding. Bonds well to plastics (PVC/PC/PU), glass and metals. Bonding of dissimilar substrates with varying elasticity. |

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# Litemask™ Mask & Gasket Series

Specialty Chemicals

| Flag-Ship Products<br>Web Highlights | Litemask™ 4139VT | Litemask™ 4139G | Litemask™ 4153 | Litemask™ 4201 | Litemask™ 4272 | Litemask™ 8108 | Litemask™ 8114 | Litemask™ 8114T | Litemask™ 8114VT |
|---|---|---|---|---|---|---|---|---|---|
| Type of Bonder | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Strength Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Strength Metal/ Glass/Ceramics | Low Strength Multi-Substrates | Peelable | Peelable | Peelable |
| Type of Cure - Product Title | UV/Visible/Heat/Activator Curable High Temperature Burnt-Off Mask | UV/Visible/Heat/Activator Curable High Temperature Burnt-Off Mask | UV/Visible/Heat/Activator Curable Low Shrink (Burnt-Off) Mask | UV/Visible/Heat/Activator Curable Chemical-Resistant Mask | UV/Visible/Heat/Activator Curable Chemical-Resistant Mask | UV/Visible/LED Curable Chemical Etching Surface Protective Mask | UV/Visible/LED Curable Protective Peel-able Temporary Clear Mask | UV/Visible/LED Curable Protective Peel-able Temporary Clear Mask | UV/Visible/LED Curable Protective Peel-able Temporary Clear Mask |
| Competitive Products (Products offered with similar properties. Users should test to confirm suitability) | Tangent 6108-VT | Tangent 20101<br>Tangent 6108-G | Tangent 6108<br>Tangent 6441<br>Vitralit 6128<br>Dymax 6-621 | Tangent 20106<br>Vitralit 6127<br>Tangent 6127<br>Dymax 628-LV | Tangent 6442<br>Dymax 628 | Dymax 734-BT | New | New | New |
| Surface After Full Cure ASTM D189 | Tack-Free | Tack-Free | Sleek | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free |
| Tack-Free/Full Cure Surface using F200P (UVA 150mW/cm²) / L9000 (UVA 2,800mW/cm²) | 10s / 8s | 10s / 8s | 10s / 2s | 40s / 30s | 10s / 2s | 40s / 2s | 6s / 3s | 6s / 3s | 6s / 3s |
| Glass Fixture Time F200P (UVA 150mW/cm²) | 1s | 1s | 1s | 8s | 7s | 1s | 3s | 3s | 3s |
| Color / Appearance | Single Component, Clear | Single Component, Clear | Single Component, Slightly Translucent | Single Component, Slight Tint | Single Component, Slight Tint | Single Component Slightly Translucent | Single Component, Clear | Single Component, Clear | Single Component, Clear |
| Viscosity cP@20rpm ASTM D2556 | 18,000 - 30,000 | > 1,000,000 | 500 - 900 | 80 - 180 | 250 - 550 | 17,000 - 31,000 | 800 - 1,200 | 0 | 0 |
| Shore Hardness ASTM D2240 | D75 to D85 | D75 to D85 | D76 to D86 | D75 to D85 | D78 to D88 | D30 to D40 | D13 to D23 | 0 | 0 |
| Linear Shrinkage ASTM D2566 | 2.20% | 2.20% | 0.10% | 0.11% | 0.02% | 0.10% | 1.20% | 1.80% | 1.80% |
| Water Absorption ASTM D570 | 0.50% | 0.50% | 1.60% | 0.60% | 0.60% | 7.70% | 0.60% | 0.50% | 0.50% |
| Tensile Strength (PSI) ASTM D638 ^ - Substrate Failure * - PC-PC / SS-SS / S-S / AL-AL — PC-PC | 1,000* | 1,000* | 400 | 500* | 500* | Good | 4,000 | 4,500 | 4,500 |
| PC-SS | 11,600* | 11,600* | 9,400* | 9,800* | 10,500* | Fair | 1,900 | 1,500 | 1,500 |
| PC-S | 16,000* | 16,000* | 8,300* | 10,000* | 13,700* | Fair | 2,600 | 1,800 | 1,800 |
| PC-AL | 9,800* | 9,800* | 14,000* | 7,400* | 10,400* | Good | 1,700 | 1,500 | 1,500 |
| Elongation at Break ASTM D638 | 55% | 55% | 33% | 4% | 7% | 690% | 138% | 90% | 90% |
| Temp. Resistance ASTM D366 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 160 | -55 to 160 |
| Young's Modulus MPa ASTM D638 | 130 | 130 | 3,618 | 1,589 | 7,024 | 626 | 51 | 78 | 78 |
| Glass Transition Tg °C ASTM D366 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Average Linear CTE ASTM D696 | 88 | 88 | 15 | 91 | 91 | 118 | 119 | 102 | 102 |
| Product Highlights (Functions/Specialty) | Cures with UV/Visible/ Heat or Actif 398. Very good adhesion to metals and glass. Used in aerospace industry for the effective protection of turbine blades against chemicals during cleaning. | Cures with UV/Visible/ Heat or Actif 398. Very good adhesion to metals and glass. Used in aerospace industry for the effective protection of turbine blades against chemicals during cleaning. | Ultra-clear, low viscosity UV/Visible Light/LED/ Activator/Heat-curing, high strength metal-glass mask for protection of surfaces during blasting. Remove by burn-off. Tack-free, used in jewelry industry. | Aerospace Grade. Cures with UV/Visible/Heat or activator (Actif 398). Very low viscosity, high strength metal/glass/ ceramics masking material. Low linear shrinkage, good temperature and moisture resistance. | Aerospace Grade. Cures with UV/Visible/Heat or activator (Actif 398). Very low viscosity, high strength metal/glass/ ceramics masking material. Low linear shrinkage, good temperature and moisture resistance. | High viscosity peel-able mask for protection of metallic and glass components such as engine blades/vanes in chemical etching and sand-blasting. | Medium viscosity, ultra-clean peel-able high temp mask for electronics and aerospace industries. Soft, tough and flexible for surface protection against chemical stains and burnt marks during manufacturing processes. | Medium high viscosity, ultra-clean peel-able high temp mask for electronics and aerospace industries. Soft, tough and flexible for surface protection against chemical stains and burnt marks during manufacturing processes. | Very high viscosity, ultra-clean peel-able high temp mask for electronics and aerospace industries. Soft, tough and flexible for surface protection against chemical stains and burnt marks during manufacturing processes. |

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# Optik™ Optical Series

Specialty Chemicals

| Flag-Ship Products<br>Web Highlights | Optik™ 7313 | Optik™ 7648 | Optik™ 7664 | Optik™ 7675 | Optik™ 7722 | Optik™ 7731 | Optik™ 7760 | Optik™ 7763 | Optik™ 7795 |
|---|---|---|---|---|---|---|---|---|---|
| Type of Bonder | Multi-Substrates (Low Strength Plastics) | High Strength Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | Multi-Substrates (Low Adhesion) | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics |
| Type of Cure - Product Title | UV/Visible/LED Curable Multi-Substrate Optical Bonder/Sealant | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder | UV/Visible/LED Curable Low Stress Encapsulant for Electronics | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder | UV/Visible/LED Curable High Strength Metal-Glass Optical Bonder |
| Competitive Products (Products offered with similar properties. Users should test to confirm suitability) | Tangent 5140 | New | - | Delo OM-614 | - | - | - | Dymax 4-20508 | - |
| Surface After Full Cure ²ISTM D189 | Tack-Free | Grippy | Sleek | Sleek | Sleek | Sleek | Sleek | Sleek | Sleek |
| Tack-Free/Full Cure Surface using F200P (UVA 150mW/cm²) / L9000 (UVA 2,800mW/cm²) | 60s / 4s | 6s / 1s | 3s / 3s | 8s / 6s | 15s / 2s | 15s / 2s | 15s / 2s | 15s / 2s | 15s / 2s |
| Glass Fixture Time F200P (UVA 150mW/cm²) | 1s | 2s | 2s | 1s | 2s | 2s | 2s | 2s | 2s |
| Color / Appearance | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear |
| Viscosity cP@20rpm ASTM D2556 | 600 - 1,000 | 16,000 - 26,000 | 2,000 - 4,000 | 2,300 - 3,700 | 400 - 700 | 150 - 350 | 60 - 120 | 800 - 1,500 | 5,000 - 8,000 |
| Shore Hardness ASTM D2240 | D45 to D55 | D75 to D85 | D83 to D93 | D72 to D82 | D83 to D93 | D83 to D93 | D83 to D93 | D83 to D93 | D82 to D92 |
| Linear Shrinkage ²ISTM D2566 | 0.30% | 0.09% | 2.10% | 1.10% | 0.50% | 0.30% | 0.30% | 1.00% | 0.60% |
| Water Absorption ASTM D570 | 1.20% | 0.30% | 0.40% | 0.60% | 0.20% | 0.20% | 0.10% | 0.20% | 0.30% |
| Tensile Strength (PSI) ASTM D638 ^ - Substrate Failure * - PC-PC / SS-SS / S-S / AL-AL — PC-PC | 1,800 | 390* | N.A. | 1,300 | N.A. | N.A. | N.A. | N.A. | N.A. |
| PC-SS | 4,800 | 8,900* | 10,900* | 1,100 | 10,400* | 10,500* | 8,700* | 10,200* | 10,800* |
| PC-S | 4,500 | 5,900* | 6,400* | 2,700 | 8,700* | 10,600* | 10,100* | 7,400* | 12,600* |
| PC-AL | 3,100 | 5,700* | 10,900* | 2,900 | 10,000* | 8,000* | 9,500* | 10,800* | 10,100* |
| Elongation at Break ASTM D638 | 430% | 76% | 18% | 32% | 11% | 7% | 11% | 17% | 24% |
| Temp. Resistance ²ISTM D366 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 |
| Young's Modulus MPa ASTM D638 | 13 | 89 | 399 | 204 | 668 | 895 | 627 | 393 | 290 |
| Glass Transition Tg °C ²ISTM D366 | N.A. | 50 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Average Linear CTE ²ISTM D696 | 139 | 53 | Negligible | 116 | Negligible | Negligible | Negligible | Negligible | Negligible |
| Product Highlights (Functions/Specialty) | Optical grade, very low viscosity multi-substrate bonder. Very clear and tough material. Good vibration isolation capability and extremely low shrinkage. Suitable for use as a sealant and gasket material. | Very high strength metal/ glass bonder. Passed stringent 1000X TMCL and 1000hr WHTSL, HTSL and LTSL tests. Ideal for bonding applications in opto-electronics industry, such as code-wheels manufacturing. | Medium viscosity active alignment optical bonder. Used in optical/medical devices for bonding of metals, glass and ceramics. Very low shrinkage and water absorption. Ability to withstand stringent thermal cycling. | Ultra-low stress, clear optical encapsulant for IME (in-mold electronics). Fast curing with good light transmission properties. Enhanced moisture and temperature resistance. Does not attack flexible circuits easily. | Low viscosity active alignment optical bonder. Used in optical/medical devices for bonding of metals, glass and ceramics. Very low shrinkage and water absorption. Ability to withstand stringent thermal cycling. | Very low viscosity active alignment optical bonder. Used in optical/medical devices for bonding of metals, glass and ceramics. Very low shrinkage and water absorption. Ability to withstand stringent thermal cycling. | Very low viscosity active alignment optical bonder. Used in optical/medical devices for bonding of metals, glass and ceramics. Very low shrinkage and water absorption. Ability to withstand stringent thermal cycling. | Medium-low viscosity active alignment optical bonder. Used in optical/ medical devices for bonding of metals, glass and ceramics. Very low shrinkage and water absorption. Ability to withstand stringent thermal cycling. | Medium high viscosity, superior high strength bonder. Used for bonding of metals, glass and ceramics in electronics/optical/ medical devices. Very low shrinkage and water absorption. Ability to withstand stringent thermal cycling. |

# Quad-Cure™ Series

Specialty Chemicals

| Flag-Ship Products<br>Web Highlights | Quad-Cure™ 8053 | Quad-Cure™ 8118 | Quad-Cure™ 9218 | Quad-Cure™ 9245 | Quad-Cure™ 9254 | Quad-Cure™ 9255G | Quad-Cure™ 9263 | Quad-Cure™ 9273 | Quad-Cure™ 9933 |
|---|---|---|---|---|---|---|---|---|---|
| Type of Bonder | High Performance Metal/ Glass/Ceramics | High Strength Metal/ Glass | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Strength Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Strength Metal/ Glass/Ceramics |
| Type of Cure - Product Title | UV/Visible/Heat Curable Superior Low Shrink Metal Glass Bonder | UV/Visible/Heat/Activator Curable Rapid-Cure Non-Slump Bonder | UV/Visible/Heat/Activator Curable Flexible Metal-Glass Bonder | UV/Visible/Heat/Activator Curable Flexible Metal-Glass Bonder | UV/Visible/Heat/Activator Curable Flexible Metal-Glass Bonder | Multi-cure, Ultra Low Shrinkage Precision Positioning Bonder | UV/Visible/Heat/Activator Curable Flexible Metal-Glass Bonder | UV/Visible/Heat/Activator Curable Flexible Metal-Glass Bonder | Multi-cure, High Performance, Moisture-Resistant Metal-Glass Bonder |
| Competitive Products (Products offered with similar properties. Users should test to confirm suitability) | New | MB-5000UV | Dymax 625<br>Tangent 8H344 | - | 3032<br>(8H-13-20IV) | - | Vitralit 6128 | Dymax 625<br>Tangent 8H344 | Tangent 6108<br>Tangent 6441 |
| Surface After Full Cure ASTM D189 | Sleek | Tack-Free | PSA Feel | PSA Feel | PSA Feel | Sleek | PSA Feel | PSA Feel | PSA Feel |
| Tack-Free/Full Cure Surface using F200P (UVA 150mW/cm²) / L9300 (UVA 2,800mW/cm²) | 15s / 10s | 1s / 1s | 10s / 9s | 25s / 20s | 10s / 9s | 10s / 2s | 40s / 30s | 40s / 30s | 15s / 9s |
| Glass Fixture Time F200P (UVA 150mW/cm²) | 2s | 1s | 7s | 7s | 7s | 1s | 8s | 8s | 1s |
| Color / Appearance | Single Component Clear, Slightly Translucent | Single Component, Slightly Translucent | Single Component, Slight Tint | Single Component, Slight Tint | Single Component, Slight Tint | Single Component, Opaque White | Single Component, Slight Tint | Single Component, Slight Tint | Single Component, Clear |
| Viscosity cP@20rpm ASTM D2556 | 900 - 1,900 | 50,000 - 90,000 | 16,000 - 25,000 | 2,500 - 4,800 | 1,200 - 2,500 | > 1,000,000 | 500 - 1,000 | 700 - 1,200 | 400 - 800 |
| Shore Hardness ASTM D2240 | D79 to D89 | D57 to D67 | D43 to D53 | D65 to D75 | D66 to D76 | D76 to D86 | D67 to D77 | D40 to D50 | D68 to D78 |
| Linear Shrinkage ASTM D2566 | 0.10% | 0.80% | 0.10% | 1.02% | 1.02% | 0.01% | 1.02% | 0.10% | 2.20% |
| Water Absorption ASTM D570 | 0.80% | 1.00% | 0.80% | 0.70% | 0.70% | 1.60% | 0.70% | | 0.50% |
| Tensile Strength (PSI) ASTM D638 ^ - Substrate Failure * - PC-PC / SS-SS / S-S / AL-AL — PC-PC | N.A. | 300 | 1,500 | 600* | 600* | 200 | 600* | 1,500 | 200* |
| PC-SS | 9,700* | 5,300* | 8,200* | 10,000* | 10,500* | 7,700* | 7,700* | 8,200* | 9,400* |
| PC-S | 12,900* | 5,400* | 8,000* | 8,800* | 16,000* | 6,200* | 13,600* | 7,900* | 9,800* |
| PC-AL | 8,200* | 4,200* | 8,000* | 6,800* | 9,500* | 4,000* | 6,500* | 8,000* | 5,700* |
| Elongation at Break ASTM D638 | 17% | 38% | 444% | 820% | 600% | 33% | 510% | 544% | 55% |
| Temp. Resistance ASTM D366 | -55 to 155 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 |
| Young's Modulus MPa ASTM D638 | 402 | 698 | 12 | 7 | 8 | 3,618 | 7 | Not Available | 123 |
| Glass Transition Tg °C ASTM D366 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Average Linear CTE ASTM D696 | 34 | 138 | 81 | 84 | 81 | 15 | 15 | 15 | 91 |
| Product Highlights (Functions/Specialty) | Please request for more information. | Thixotropic, non-slump bonder for precision tacking operation. Rapid-Cure chemistry with UV/ Visible Light/LED/ Activator/Heat cure options. | Cures with UV/Visible/ Heat or Actif 398. Very high strength, high viscosity metal/glass bonder. Low shrinkage and good passive vibration isolation capability. Resistant to moisture and low water absorption. | Cures with UV/Visible/ Heat or Actif 398. Very high strength, high viscosity metal/glass bonder. Low shrinkage and good passive vibration isolation capability. Resistant to moisture and low water absorption. | Cures with UV/Visible/ Heat or Actif 398. Very high strength, medium viscosity metal/glass bonder. Low shrinkage and good passive vibration isolation capability. Resistant to moisture and low water absorption. | Ultra low-shrink gel for used in optical positioning adhesive. UV/ Visible Light/LED/ Activator/Heat-curing, high strength metal-glass bonder for electronics, optics and medical devices. | Cures with UV/Visible/ Heat or Actif 398. Very high strength, low viscosity metal/glass bonder. Low shrinkage and good passive vibration isolation capability. Resistant to moisture and low water absorption. | Cures with UV/Visible/ Heat or Actif 398. Very high strength, high viscosity metal/glass bonder. Low shrinkage and good passive vibration isolation capability. Resistant to moisture and low water absorption. | Cures with UV/Visible/ Heat or Actif 398. Very good clarity, heat and moisture resistance. Low water absorption and good passive vibration isolation capability. Excellent bonding strength for metal-glass applications. |

incure™
ADHESIVES, EPOXIES AND COATINGS

# Uni-Seal™ Series

Specialty Chemicals

| Flag-Ship Products<br>Web Highlights | Uni-Seal™ 1822 | Uni-Seal™ 3203 | Uni-Seal™ 3339 | Uni-Seal™ 3368 | Uni-Seal™ 3368B | Uni-Seal™ 3368G | Uni-Seal™ 3368GB | Uni-Seal™ 3393 | Uni-Seal™ 3393L |
|---|---|---|---|---|---|---|---|---|---|
| Type of Bonder | Multi-Substrates | Low Strength Multi-Substrates | Very Low Strength Multi-Substrates | Very Low Strength Multi-Substrates | Very Low Strength Multi-Substrates | Very Low Strength Multi-Substrates | Very Low Strength Multi-Substrates | Very Low Strength Multi-Substrates | Very Low Strength Multi-Substrates |
| Type of Cure - Product Title | UV/Visible/LED Curable Multi-Substrate Bonder/ Gasket/Sealant (Hard) | UV/Visible/LED Curable Rapid-Cure Metal-Glass Bonder | UV/Visible/LED Curable Electronics Touchscreen/ Gasket/Mask/Seal | UV/Visible/LED Curable Electronics Gasket/Mask/ Sealant | UV/Visible/LED Curable Electronics Gasket/Mask/ Sealant(Black) | UV/Visible/LED Curable Electronics Gasket/Mask/ Sealant | UV/Visible/LED Curable Electronics Gasket/Mask/ Sealant(Black) | UV/Visible/LED Curable Gasket/Mask/Sealant for Electronics | UV/Visible/LED Curable Multi-Substrate Medical Gasket Sealant |
| Competitive Products (Products offered with similar properties. Users should test to confirm suitability) | Delo 4436 | Sekisui Photolec A | Tangent 2586G<br>Tangent 8586G | Tangent 2586G<br>Tangent 8586G | Dymax GA-145 | Tangent 2586G<br>Tangent 8586G | Dymax GA-145 | Tangent 2586<br>Tangent 8586 | Tangent 2586<br>Tangent 8586 |
| Surface After Full Cure ASTM D189 | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free | Tack-Free |
| Tack-Free/Full Cure Surface using F200P (UVA 150mW/cm²) / L9000 (UVA 2,800mW/cm²) | 10s / 1s | 1s / 1s | 4s / 5s | 4s / 5s | 4s / 5s | 4s / 5s | 4s / 5s | 4s / 5s | 4s / 5s |
| Glass Fixture Time F200P (UVA 150mW/cm²) | 3s | 1s | 1s | 1s | 1s | 1s | 1s | 1s | 1s |
| Color / Appearance | Single Component, Clear Translucent | Single Component, Slightly Translucent | Single Component, Slight Translucent | Single Component, Slight Translucent | Single Component, Translucent Black | Single Component, Slight Translucent | Single Component, Translucent Black | Single Component, Slight Translucent | Single Component, Slight Translucent |
| Viscosity cP@20rpm ASTM D2556 | 200 - 500 | 700 - 1,200 | > 1,000,000 | 20,000 - 36,000 | 20,000 - 36,000 | > 1,000,000 | > 1,000,000 | 400 - 800 | 400 - 800 |
| Shore Hardness ASTM D2240 | A59 to A69 | D71 to D81 | A27 to A37 | A27 to A37 | A27 to A37 | A27 to A37 | A27 to A37 | A5 to A15 | A5 to A15 |
| Linear Shrinkage ASTM D2566 | 1.10% | 2.00% | 1.50% | 1.50% | 1.50% | 1.50% | 1.50% | 2.00% | 2.00% |
| Water Absorption ASTM D570 | 0.60% | 0.40% | 1.50% | 1.50% | 1.50% | 1.50% | 1.50% | 0.10% | 0.10% |
| Tensile Strength (PSI) ASTM D638 ^ - Substrate Failure * - PC-PC / SS-SS / S-S / AL-AL — PC-PC | 4,900^ | 800 | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 | 3,000 | 3,000 |
| PC-SS | 2,700 | 2,900 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 1,500 | 1,500 |
| PC-S | 2,600 | 4,000 | 1,300 | 1,300 | 1,300 | 1,300 | 1,300 | 1,200 | 1,200 |
| PC-AL | 2,400 | 2,900 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 1,200 | 1,200 |
| Elongation at Break ASTM D638 | 250% | 13% | 400% | 400% | 400% | 400% | 400% | 374% | 374% |
| Temp. Resistance ASTM D366 | -55 to 150 | -55 to 150 | -50 to 155 | -50 to 155 | -50 to 155 | -50 to 155 | -50 to 155 | -50 to 155 | -50 to 155 |
| Young's Modulus MPa ASTM D638 | 30 | 698 | 34 | 34 | 34 | 34 | 34 | 34 | 34 |
| Glass Transition Tg °C ASTM D366 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Average Linear CTE ASTM D696 | 188 | 51 | 103 | 119 | 119 | 119 | 119 | 85 | 85 |
| Product Highlights (Functions/Specialty) | Low viscosity bonder/ sealant/gasket. Good adhesion to many substrates. Very low shrinkage and water absorption. Air-tight sealing, superior passive vibration absorption capability. | Rapid-Cure chemistry. Ultra-clear, low viscosity UV/Visible Light/LED metal-glass bonder. Tack-free and good chemical resistance. | Very thick, low water absorption electronics sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. | Very thick, low water absorption electronics black sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. | Very thick, low water absorption electronics black sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. | Gel, low water absorption electronics black sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. | Gel, low water absorption electronics black sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. | Low viscosity and low water absorption electronics sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. | Low viscosity and low water absorption electronics sealant. Provides air-tight seal with ease of peel for rework. Tough yet elongating. Widely use for automotive and electronics industries for its low CTE properties. |

# Uni-Weld™ Series

Specialty Chemicals

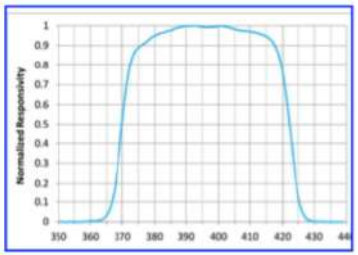
| Flag-Ship Products<br>Web Highlights | Uni-Weld™ 2204 | Uni-Weld™ 2293 | Uni-Weld™ 2813 | Uni-Weld™ 3301 | Uni-Weld™ 3271 | Uni-Weld™ 8201 | Uni-Weld™ 8224 | Uni-Weld™ 8260 | Uni-Weld™ 9070 |
|---|---|---|---|---|---|---|---|---|---|
| Type of Bonder | High Performance Meta/ Glass/Ceramics | High Performance Meta/ Glass/Ceramics | High Strength Metal/ Glass/Ceramics | Low Strength Multi-Substrates | Multi-Substrates | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | High Performance Metal/ Glass/Ceramics | Multi-Substrates (High Strength Plastics) |
| Type of Cure - Product Title | UV/Visible Curable High Strength Metal-Glass-Ceramics Bonder | UV/Visible Curable High Strength Metal-Glass-Ceramics Bonder | UV/Visible/LED Curable High Strength Low Shrink Metal-Glass Bonder | UV/Visible/LED Curable Mobile Protective Screen Bonder | UV/Visible/LED Curable Multi-Substrates (Glass) Bonder | High Performance, Very Low Shrink Stained/ Laminated Glass Repair | High Performance, Very Low Shrink Stained/ Laminated Glass Repair | High Performance, Very Low Shrink Stained/ Laminated Glass Repair | UV/Visible/LED Curable Low Shrink Multi-Substrate Superior Bonder |
| Competitive Products (Products offered with similar properties. Users should test to confirm suitability) | Dymax 426 | - | Dymax 1184M | - | - | Tangent 20106<br>Vitralit 6127<br>Tangent 6127<br>Dymax 628-LV | Tangent 20106<br>Vitralit 6127<br>Tangent 6127<br>Dymax 628-LV | Tangent 20106<br>Vitralit 6127<br>Tangent 6127<br>Dymax 628-LV | Tangent 7641 |
| Surface After Full Cure ASTM D189 | Tack-Free | Tack-Free | Tack-Free | Tacky | Tacky | Sleek | Sleek | Sleek | Tacky |
| Tack-Free/Full Cure Surface using F200P (UVA 150mW/cm²) / L9000 (UVA 2,800mW/cm²) | 40s / 2s | 40s / 2s | 60s / 4s | 20s / 1s | 20s / 1s | 30s / 5s | 30s / 5s | 30s / 5s | 5s / 1s |
| Glass Fixture Time F200P (UVA 150mW/cm²) | 1s | 6s | 1s | 1s | 1s | 10s | 10s | 10s | 2s |
| Color / Appearance | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Clear | Single Component, Slight Tint |
| Viscosity cP@20rpm ASTM D2556 | 1,000 - 2,000 | 500 - 900 | 800 - 1,500 | 150 - 250 | 150 - 250 | 80 - 160 | 2,000 - 3,000 | 20 - 75 | 50 - 150 |
| Shore Hardness ASTM D2240 | D69 to D79 | D73 to D83 | D69 to D79 | A3 to A13 | A1 to A11 | D75 to D85 | D75 to D85 | D75 to D85 | D76 to D86 |
| Linear Shrinkage ASTM D2566 | 0.03% | 0.01% | 0.10% | 0.15% | 0.15% | 0.11% | 0.11% | 0.11% | 0.20% |
| Water Absorption ASTM D570 | 0.90% | 0.90% | 0.80% | 1.69% | 0.32% | 0.60% | 0.60% | 0.60% | 2.50% |
| Tensile Strength (PSI) ASTM D638 ^ - Substrate Failure * - PC-PC / SS-SS / S-S / AL-AL — PC-PC | N.A. | N.A. | 500 | 1,300 | 3,100 | 500* | 500* | 500* | 6,000^ |
| PC-SS | 8,500* | 8,500* | 8,200* | 300 | 1,400 | 9,800* | 9,800* | 9,800* | 3,800 |
| PC-S | 5,900* | 5,900* | 6,900* | 300 | 1,500 | 10,000* | 10,000* | 10,000* | 3,600 |
| PC-AL | 7,800* | 7,800* | 7,700* | 400 | 1,200 | 7,400* | 7,400* | 7,400* | 3,700 |
| Elongation at Break ASTM D638 | 380% | 380% | 160% | 580% | 640% | 4% | 4% | 4% | 11% |
| Temp. Resistance ASTM D366 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 |
| Young's Modulus MPa ASTM D638 | 17 | 409 | 41 | 1 | 30 | 1,589 | 1,589 | 1,589 | 656 |
| Glass Transition Tg °C ASTM D366 | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Average Linear CTE ASTM D696 | Not Available | Not Available | 68 | 188 | 188 | Not Available | Not Available | Not Available | Not Available |
| Product Highlights (Functions/Specialty) | Clear and medium viscosity metals/glass/ ceramics bonder. Extremely high bonding strength, low shrinkage with enhanced moisture and temperature resistance. Near zero tolerance to movements in precision alignment bonding. | Clear and low viscosity metals/glass/ceramics adhesive. Extremely high bonding strength, low shrinkage with enhanced moisture and temperature resistance. No-drift™ on cure, ideal for precise positioning of optical devices. | Low-medium viscosity metal-glass-ceramics bonder. Extra-ordinarily high bonding strength with very low linear shrinkage and low water absorption with good thermal and moisture resistance. | Low viscosity glass bonder/sealant. High in clarity, cures with low UV intensity. Bonding of tempered glass panels on mobile devices for screen protection. Removal by hand/IPA wipes. | Low viscosity bonder/ sealant/gasket. Good adhesion to many substrates. Very low shrinkage and water absorption. Air-tight sealing, superior passive vibration absorption capability. | Cures with UV/Visible/ LED or activator (Actif 398). Low viscosity, high strength metal/glass/ ceramics bonder. Use in car windscreen, window and laminated glass repairs. | Cures with UV/Visible/ LED or activator (Actif 398). Medium-low viscosity, high strength metal/glass/ceramics bonder. Use in car windscreen, window and laminated glass repairs. | Cures with UV/Visible/ LED or activator (Actif 398). Very low viscosity, high strength metal/glass/ ceramics bonder. Use in car windscreen, window and laminated glass repairs. | Bonding of various plastic substrates. Low viscosity, transparent clear and cures in seconds. Used in high volume productions. Very good moisture and temperature resistance. |

# UV Curing Equipment





# UV Measurement & Control


**Left: LED L-395**

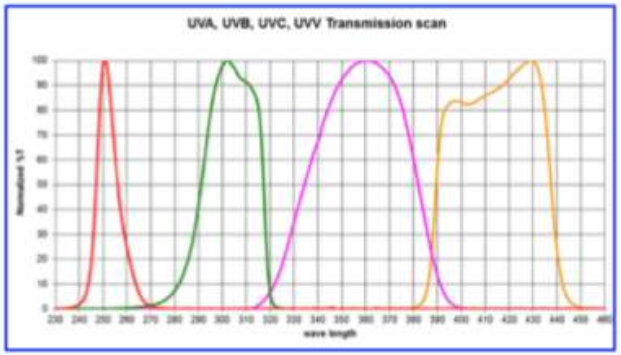
*L395 (370-422 nm)*

**Right: Broad Band**

UVA (320-390nm)

UVB (280-320nm)

UVC (250-260nm)




# Matching Chemistry

***Matching Chemistry*** ≡ Customer EXPERIENCE MATTERS® ***The Incure Experience***

## What is Chemistry-matching?

- **P** rocess requirements - Manual, semi-auto or fully-auto? Depends on volume.
- **A** dhesive selection - Industry, desired uncured and cured properties.
- **S**_ubstrates used - Metal, glass, plastics, ceramics, etc
- **T** est requirements - Bond, potting, sealing or coating performance. Reliability tests (thermal-cycling / EtO / gamma etc).
- **E** quipment - Halogen Arc Lamps or UV LED
  Spot Lamps or Small Area Curing (up to ø12mm)
  Flood Lamps for Large Area Curing (up to 150x200mm)
  Flood or Focused on Conveyor for Very Large Area Curing

Incure™
ADHESIVES, EPOXIES AND COATINGS

Section One Company Profile

- Mission Statement
- Core Competencies

Section Two Advancement in UV Technology

- Wide Offerings & Specialty Chemicals
- UV curing Equipment, Measurement & Control
- Matching Chemistry

## Section Three The Incure Experience

- IncureDirect™
- IncureConsult™
- IncureCollaborate™
- IncureLab™
- IncureRental™ Program

# Five Pillars of Incure Success

## IncureDirect™

Provides an open channel for end-users to work directly with Incure on all applications. Quick and easy access to working solutions for all bonding needs. Minimizes indirect costs associated distribution channels.

## IncureLab™

Conduct your design-on-experiment (DOEs) with the use of Incure laboratory facility and equipment at a small fee. Easy access to a wide range of adhesives and coatings, curing lamps and testing equipment for your application needs.

## IncureConsult™

Take advantage of direct professional advice from Incure Product Development Consultant. IncureConsult™ embraces matching-chemistry in 3 simple steps:
(1) Understanding your application, choice of substrates and test requirements
(2) Recommending the most suitable adhesive and best-matched UV curing equipment
(3) Establish a reliable and controlled manufacturing process

## IncureCollaborate™

Faster turn-around for evaluation samples, coupled with enhanced confidentiality for customized solutions.

## IncureRental™

Use of Incure curing equipment on weekly rental basis. Choice of purchase of curing system by offsetting rental charges at the end of trial period.

## Who can benefit from Incure Experience Centre (IEC)?

- Product Research & Development
- Design Engineering
- Manufacturing
- Engineering

## How can you benefit from Incure Experience Centre (IEC)?

- Tap on the expertise and experience of our Applications Consultants
- Select and match an adhesive product of your choice of substrates
- Know what you are in for when you can have hands-on access to a wide range of UV curing system
- In-house equipment to support full cure test, hardness, elongation and tensile tests, viscosity measurement, strength validation etc.
- DOE at our laboratory for your bonding needs at a nominal fee.
- 24-hr R&D centers work on customized formulations