

PROCESS MONITORING · THERMAL INSPECTION · GOLDEN WINDOW

Know which settings make good parts.

Every shot gets a fingerprint: machine settings, material, dryer, ambient, and a thermal image of the part. Link it to good or scrap, and the platform shows which settings work and when the process drifts.

Shot inspection · M-14 · Mould 2207-B, 4 cavities

Shift A · Mon 26 Oct 2026 · 11:06:42

Golden pattern

cavity 2

Shot 48,213

cavity 2

30 °C

90 °C

Flagged: rib R3 is 6.8 °C cooler than the golden pattern, a sign of late fill. Operator alerted at the machine; part set aside for checking.

Process fingerprint of this shot

	Value	Golden window	
Melt temperature	288 °C	285 to 292	●
Hold pressure	61 bar	58 to 64	●
Mould temperature	84 °C	80 to 88	●
Injection time	1.42 s	1.35 to 1.45	●
Cushion	6.1 mm	5.0 to 7.0	●
Dryer D-3 dew point	-18 °C	-30 or lower	●

Material lot PA66-GF30 L-0927 · ambient 78% RH

Likely cause: dryer, not machine. Dew point out of window since 09:40. Wet PA66 fills poorly and splays. Check dryer D-3 before changing machine settings.

Golden window · mould 2207-B · last 30 days

41,800 shots, 612 scrap. Window holds 94% of shots and 21% of scrap.

Scrap by defect · tagged at the machine

Short shot	214
Splay / silver streaks	168
Sink mark	97
Flash	81
Warpage	52

612 parts, 1.5% of shots

Every shot has a fingerprint

Settings, material lot, dryer, ambient and power, saved with each shot and linked to the part, the cavity and the result.

Every scrap has a cause

Operators tag the defect in one tap. The platform shows which settings, lots and conditions keep turning up with it.

Every setting has evidence

Recommended windows show how many good and bad parts they rest on. Your setter decides; nothing changes on the machine by itself.

Your setter stays in charge

The platform recommends; people apply changes. It never writes settings to a machine, press or autoclave. For aerospace parts, qualified inspection and the customer's acceptance criteria stay final; thermal and AI flags only send parts for a closer look.

01 Compliance

Energy, carbon and export passports

02 Quality

Process fingerprint and golden window

03 Safety

Thermal watch and early fire alarms

04 Process

Downtime, cycle time, OEE, planning

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Screens show an illustrative 28-machine moulding plant in Chakan, Pune, and an illustrative autoclave cure. All figures are examples, not results from a named customer. Product and company names to be confirmed.

ILLUSTRATIVE PLANT

Injection moulder, Chakan, Pune

Auto connector housings · PA66 GF30 and PBT · Tier 1 customers

28

Machines
80 to 450 t

9

OPC UA
EUROMAP 77

19

USB files
older machines

THREE PROBLEMS THE MODULE SOLVED

01 Monsoon splay traced to a dryer, not the machine

PA66 parts · July and August

Splay scrap on PA66 parts doubled in July. Setters raised the melt temperature to fight it. The fingerprint showed the dew point of dryer D-3 rising with outside humidity: its regeneration heater was failing.

Dryer repaired. Splay back to its usual level within two days, and the melt temperature change was reversed.

02 A mould restart without 40 trial shots

Mould 2207-B · new resin lot

After a mould change, setters used to tune by feel and throw away the first 30 to 40 shots. Now the platform proposes a starting recipe from the golden window of the last six runs on the same mould and material.

The setter accepted it and adjusted hold pressure by 2 bar. First good part at shot 9; every choice is logged.

03 Cure records ready for an aerospace audit

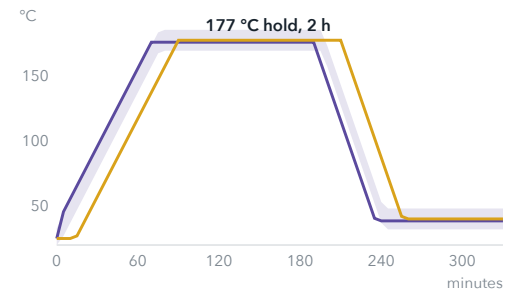
Second step: carbon composite parts

Cure traces, material out-time, layup records and inspection reports used to sit in separate binders. The platform keeps them as one record per part and flags any thermocouple that leaves the specified envelope.

One evidence pack per part number for AS9100 and Nadcap audits. Accept or reject stays with qualified inspection.

Composite cure record · autoclave AC-2

Run 26-0412 · 12 thermocouples · spec envelope shaded



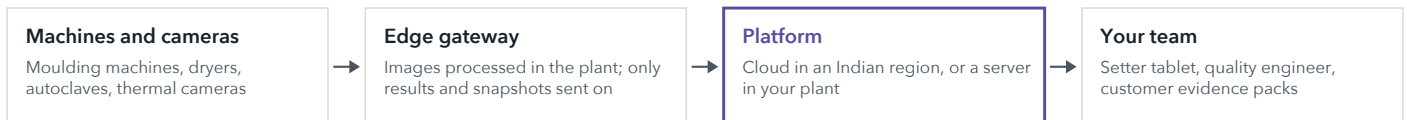
— leading thermocouple — lagging TC-7, +14 min

Linked to the same record: prepreg lot and out-time, ply book, vacuum bag leak check and the ultrasonic C-scan report for each part.

CHOOSE YOUR FEATURES

☒ Machine data intake	OPC UA, EUROMAP 77, USB cycle files	CORE
☒ Scrap tagging	Defect type in one tap, per shot or batch	CORE
☒ Fingerprint ledger	Genealogy by lot, mould, cavity, shot	CORE
☒ Golden window	Recommended ranges with their evidence	CORE
☐ Thermal inspection	Camera at ejection or after demould	OPTION
☐ Setter assist	Starting recipes and drift corrections	OPTION
☐ Customer evidence pack	PPAP, FAI and cure records per lot	OPTION
☐ Composite cure records	Autoclave and oven traces, NDT links	OPTION
☐ Scrap into OEE	Shared with the Process module	OPTION

HOW IT FITS TOGETHER



START WITH WHAT YOU HAVE

TIER 0 USB exports + tablet Scrap by defect, machine, mould and shift; first links between settings and scrap.	TIER 1 Gateway + sensors Data per shot without USB sticks; dryer, ambient and power logged.	TIER 2 Thermal cameras Every part checked at ejection; golden pattern and window per mould.
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