



TECHNICAL BUYER'S GUIDE · PRATISHNA ENGINEERS

BABY CARE COMPONENTS INJECTION MOULDING MACHINE GUIDE

A practical guide for baby care product manufacturers: components, materials, mould requirements, production planning, automation, quality, worked examples and what to send for a machine recommendation.

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WHO THIS GUIDE IS FOR

Owners, plant and production managers, process engineers and purchase teams making feeding, hygiene, bath and nursery products for infants and toddlers.

HOW TO USE IT

Sections 01 to 04 define the part, material and mould. Section 05 plans output. Sections 06 to 09 cover automation, quality, examples and your enquiry. Clamp force and shot sizing are covered in our Machine Selection Guide.

NEED A RECOMMENDATION?

Send your drawing, material, part weight, cavities and output target to sales@pratishnaengineers.com. The checklist in Section 09 lists what to include.

SECTION 01 · OVERVIEW

BABY CARE COMPONENTS & INJECTION MOULDING

Baby care parts go into a child's mouth, hands and bath. Material safety and hygiene shape every decision, from resin to mould to packing.

WHERE INJECTION MOULDING FITS IN BABY CARE

Feeding bottles, caps, sippers, soother shields, spoons, snack cups, breast pump parts and milk powder containers are made in rigid thermoplastics by injection moulding. Soft parts such as teats, teethers and many suction bowls are made in silicone, usually by liquid silicone rubber (LSR) injection or compression moulding, which is a different process with its own equipment. Larger items such as bath tubs, potties, baby chairs and pram parts are moulded in PP or HDPE.

Regulation matters here. In India, IS 14625:2015 for plastic feeding bottles prohibits bisphenol A (BPA)^[1]. A BIS draft second revision circulated in 2026 would also remove polycarbonate and polyethersulfone as permitted bottle materials^[2]. In the EU, Regulation (EU) 2024/3190 extends the BPA ban to plastics for food contact in general^[3].

MAIN COMPONENT CATEGORIES

FEEDING BOTTLES Bottle bodies, bottle caps, teats and nipples	DRINKING & SOOTHING Baby sippers, pacifiers and soothers, teethers	FEEDING ACCESSORIES Spoons and forks, suction bowls and plates, fruit and mesh feeders, snack cups	FEEDING STORAGE Milk powder containers and dispensers
MOTHER CARE Breast pump flanges, valves and diaphragms	HEALTH & HYGIENE Nasal aspirators, potties and training toilets	BATH & FURNITURE Baby bath tubs, baby chairs	TRAVEL Stroller and pram parts, baby carrier buckles

WHY INJECTION MOULDING SUITS THESE PARTS

- Accurate threads and sealing faces for bottles, caps, sippers and containers.
- Smooth, rounded surfaces for parts that touch an infant's mouth.
- Multi-cavity small parts and single-cavity tubs and chairs.

TYPICAL MANUFACTURING CHALLENGES

- Clean handling of food-contact parts from resin to packing.
- Clear, speck-free bottles in high-temperature materials such as PPSU.
- Combining rigid thermoplastic parts with silicone parts.
- Sharp edges and flash on parts handled by children.

WHERE MOULDING SITS IN THE PRODUCT CHAIN

FOOD-GRADE RESIN with declarations	DRYING PPSU, PC, Tritan, PA	INJECTION MOULDING clean area	SILICONE PARTS LSR, separate process	ASSEMBLY teats, caps, shields	TESTING fit, leak, safety	HYGIENIC PACKING retail packs
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KEY REQUIREMENTS FOR BABY CARE COMPONENTS

MATERIAL SAFETY Feeding parts must meet food-contact and bisphenol rules, including BPA prohibition in feeding bottles ^{[1][3]} .	HEAT & STERILISATION Bottles and feeding parts are boiled, steamed or washed repeatedly and must keep shape and clarity.	MECHANICAL SAFETY Soother standards cover shield size, ventilation holes, ring grip and detachable parts ^[4] .
LEAK-TIGHT FIT Bottle, cap, teat and sipper assemblies must seal and not loosen in use.	SURFACE & EDGES No sharp flash, burrs or rough gate marks on any surface a child can touch or mouth.	STRENGTH & STABILITY Chairs, potties, tubs, pram parts and buckles must carry load without cracking or tipping.

SECTION 02 · COMPONENTS

MAJOR BABY CARE COMPONENTS

The baby care parts covered by this guide, their materials and what each asks of the moulding process.

COMPONENT	APPLICATION	MATERIAL(S)	INJECTION MOULDING CONSIDERATIONS
Feeding bottle body	Milk and water feeding	PPSU, PP, PC, silicone (teat)	PPSU for premium sterilisable bottles, PP for economy. Some bodies are injection-blow moulded. Teat is a separate silicone part. Check PC against current rules ^{[1][2]} .
Feeding bottle cap	Screw ring and hood	Food-grade PP, PE, HDPE	Multi-cavity part with threads; holds the silicone teat. Thread and seal fit to the bottle neck.
Bottle teat / nipple	Feeding teat	Silicone (LSR), latex	Made by LSR injection or compression moulding, not thermoplastic moulding.
Baby sipper	Training cup	PPSU, Tritan copolyester, PP, silicone	Food-grade, BPA-free materials. Silicone spout and straw assembled or overmoulded.
Pacifier / soother	Soothing	PP, PC, Tritan (shield), silicone (teat)	Hard shield with a soft silicone teat, usually a two-part assembly. Shield holes and ring are safety features ^[4] .
Teether	Teething relief	Silicone (LSR), TPE	Soft-touch parts; silicone via LSR, TPE by thermoplastic moulding.
Spoon / fork, fruit and mesh feeder	Weaning	PP, silicone	PP handle with silicone tip or mesh, or all silicone. Secure joint between parts.
Suction bowl / plate, snack cup	Weaning and snacks	Silicone (LSR), PP; snack cup lid in silicone	Rigid PP versions are thermoplastic moulded; suction bowls are usually silicone.
Breast pump parts	Flange, valve, diaphragm	PP, silicone	PP hard parts with sealing faces; silicone valves, diaphragms and cushions (LSR).
Milk powder container / dispenser	Formula storage and dosing	PP	Container, lid and compartment parts; closures and hinges must seal and survive repeated opening.
Nasal aspirator	Infant nasal care	PP, silicone	Small PP body with a silicone tip or bulb; smooth rounded tip geometry.
Baby potty / training toilet	Toilet training	PP, HDPE	Medium to large part; stable base, splash guard and removable bowl.
Baby bath tub	Bathing	PP, HDPE	Large part; size drives the machine. Flatness, stiffness and a smooth inner surface.
Baby chair	Feeding and sitting	PP, HDPE, ABS	Large part, often a plastic seat or shell on a metal frame. Load-bearing ribs and fixing points.
Stroller / pram parts	Frame joints, wheels, trims	PP, ABS, glass-filled PA, POM	Structural joints in glass-filled PA; wheels and pivots in POM. Strength and wear.
Baby carrier buckle	Harness fastening	POM, PA	Precise latch geometry and consistent release force; load-bearing.

Silicone teats, teethers and most suction bowls need LSR or compression moulding equipment, not a standard thermoplastic injection moulding machine.

MOUTH-CONTACT PARTS Bottles, caps, sippers, shields, spoons: compliance and clean handling first.	SAFETY MECHANISMS Soother rings and holes, buckles, pram joints: dimensions are safety features.	SIZE-CRITICAL PARTS Bath tubs, chairs and potties: mould size decides the machine first.
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SECTION 03 · MATERIALS

MATERIALS USED FOR BABY CARE COMPONENTS

For anything that touches food or an infant's mouth, the material grade and its compliance documents matter as much as its properties.

MATERIAL	TYPICAL COMPONENTS	RELEVANT PROPERTIES	PROCESSING CONSIDERATIONS	LIMITATIONS TO CHECK
PP (food-grade)	Bottle caps and bodies, spoons, soother shields, containers, pump parts, potties, tubs, chairs	Light, chemical resistant; allows living hinges.	Semi-crystalline: plan for shrinkage and warpage on large parts.	Limited clarity; food-contact compliance of the exact grade.
PE, HDPE	Bottle caps, potties, bath tubs, baby chairs	Tough, flexible (PE), stiffer (HDPE).	High shrinkage; melt density well below solid density ^[9] .	Low stiffness in thin sections.
PPSU	Premium feeding bottles, sippers	Heat deflection above 200 °C; withstands boiling, steam and dishwashing ^[5] .	Must be dried; high melt and mould temperatures.	Material cost; stress cracking from moulded-in stress.
Tritan copolyester	Sippers, soother shields	Clear and BPA-free.	Must be dried; follow the supplier's temperature limits.	Heat limits for sterilisation.
PC	Bottle bodies, soother shields	Clear and tough.	Must be dried.	BPA prohibited in feeding bottles in India ^[1] ; draft BIS revision would remove PC for bottles ^[2] ; EU BPA ban for food contact ^[3] .
ABS	Baby chairs, stroller parts	Rigid, good surface finish.	Needs drying to avoid moisture streaks.	Not for food contact unless the grade allows it.
Glass-filled PA, PA	Stroller joints, carrier buckles	Strength and stiffness for load-bearing parts.	Hygroscopic: moisture above 0.2% harms moulding ^[8] . Glass fibre wears screws.	Dimensions change with moisture.
POM	Carrier buckles, stroller wheels and pivots	Stiff, low friction, good fatigue life for latches.	Avoid overheating and long residence; keep PVC out of the barrel.	UV unless stabilised.
TPE	Teethers, soft grips	Soft touch, can be overmoulded on PP.	Bond depends on TPE and substrate pairing.	Food and mouth-contact compliance of the grade.
Silicone (LSR), latex	Teats, teethers, suction bowls, sipper spouts, pump valves	Soft, elastic, heat resistant.	Separate LSR or compression process.	Tear resistance and cleanliness.

General material behaviour only. Confirm properties and food-contact documents for the exact grade with the resin supplier.

MATERIAL SELECTION QUESTIONS

- ☐ Which markets will the product be sold in, and which food-contact and bisphenol rules apply there^{[1][3]}?
- ☐ Can the resin supplier give food-contact and bisphenol declarations for the exact grade?
- ☐ How will parents clean it: boiling, steam, dishwasher, microwave?
- ☐ Does the part need clarity, softness or load-bearing strength?

SECTION 04 · DESIGN & MOULD

COMPONENT DESIGN & MOULD REQUIREMENTS

In baby care, the mould decides whether a part is safe to handle and mouth, not only whether it fits.

DESIGN FEATURES THAT AFFECT MOULDING

FEATURE	WHY IT MATTERS IN BABY CARE PARTS	MOULDING IMPLICATION
Threads & neck finish	Bottles, caps, sippers and containers must seal and not cross-thread.	Accurate thread cores; unscrewing or collapsible cores for internal threads.
Sealing faces	Cap-to-bottle and teat clamping faces must hold liquid.	No flash or sink at sealing faces; stable shrinkage.
Edges & gates	Any sharp flash or gate vestige is a hazard on parts children handle.	Gates on hidden faces, tight shut-offs, radiused edges, vestige control.
Clear walls	Bottles and sippers are judged by clarity and freedom from specks.	Polished steel, gates away from visible areas, clean material handling.
Graduation marks & text	Volume marks on bottles must be readable and accurate.	Engraved or raised markings in the cavity; consistent shrinkage.
Ventilation holes & rings	Soother shields need air holes and a grip ring ^[4] .	Core pins and ring geometry held to drawing.
Soft-hard combinations	Spoons, sippers and soothers join PP or Tritan with silicone or TPE.	Mechanical interlocks for assembly, or overmoulding for TPE.
Large thin parts	Tubs, potties and chairs must be stiff yet light.	Ribbing, uniform walls, balanced filling and good cooling.
Living hinges & latches	Snack cup and container lids, carrier buckles.	PP hinges need correct gate position; buckle latches need tight tolerance.

MOULD CONSIDERATIONS

ITEM	BABY CARE POINTS	ITEM	BABY CARE POINTS
Cavity layout	Caps and small parts: 8 to 32 cavities. Bottles: low cavity counts. Tubs and chairs: 1 cavity.	Moving cores	Unscrewing for caps; slides for handles and undercuts.
Runner	Hot runners avoid runner regrind in food-contact parts and keep gate marks small.	Steel	Corrosion-resistant steels help keep cavities clean.
Surface	High polish for clear parts; fine texture for grip areas.	Mould temperature	PPSU and PC need hot moulds; plan temperature control units.
Cooling	Even cooling for flat bases, threads and large tubs.	Mould size	Tub, chair and potty moulds are large; get dimensions early.

HYGIENE IN THE MOULDING AREA

CLOSED FEEDING	CLEAN MOULDS	SEPARATED REGRIND	PROTECTED PARTS
Sealed resin bags, closed conveying and covered hoppers.	Food-safe lubricants and regular cleaning of cavities and vents.	Clear rules on whether regrind is allowed in feeding parts.	Covered conveyors and bins between machine and packing.

SECTION 05 · PRODUCTION PLANNING

PRODUCTION CAPACITY & CYCLE-TIME PLANNING

Small feeding parts run in multi-cavity moulds at high output; tubs and chairs run one part per cycle. Plan each against your sales volume and variants.

OUTPUT

Parts/hour = Cavities × 3600 ÷ Cycle time (s)

Effective/hour = Parts/hour × Utilisation

Day = Effective/hour × Hours run

Utilisation covers mould and colour changes, start-up, maintenance and rejects.

EXAMPLE 1 · 16-CAVITY PP BOTTLE CAP

16 × 3600 ÷ 12 s = 4,800 /h

× 0.85 utilisation = 4,080 /h

× 22 h = 89,760 /day

× 26 days = 2,333,760 /month

Working backwards: for 1,500,000 caps a month in 572 running hours (26 × 22), you need 2,622 per hour. Cavities = 2,622 × 12 ÷ (3600 × 0.85) ≈ 10.3, so 12 cavities is the minimum and 16 gives headroom.

WHAT SETS THE CYCLE TIME

PHASE	BABY CARE INFLUENCE
Injection & hold	Packing thick bases and threads without sinks.
Cooling	Usually the largest share; rises roughly with wall thickness squared ^[7] .
Mould temperature	Hot moulds for PPSU and PC lengthen cooling.
Unscrewing	Thread cores on caps add time.
Part removal	Careful take-out to avoid scratching clear parts.
Material	Undried PPSU, PC or PA causes splay and rejects.

EXAMPLE 2 · BABY BATH TUB, 1 CAVITY

1 × 3600 ÷ 60 s = 60 /h

× 0.85 = 51 /h · × 22 h = 1,122 /day

× 26 days = 29,172 /month

Loading: 20,000 tubs a month needs about 35 per hour over 572 running hours, about 69% of this machine. Mould changes for colours or other products take the rest.

Illustrative example. Cycle times of 12 s and 60 s, 85% utilisation, 22 h per day and 26 days per month are assumptions. Actual requirements depend on the component, material, mould and production conditions.

BALANCING CAVITIES, CLAMP FORCE AND OUTPUT

PP CAP MOULD	PROJECTED AREA	CALCULATED FORCE	RATED AT 85%	SHOT	EFFECTIVE OUTPUT
8 cavities	104 cm ²	42 t	49 t	38 g	2,040 /h
16 cavities	204 cm ²	82 t	97 t	73 g	4,080 /h
24 cavities	304 cm ²	122 t	144 t	108 g	6,120 /h

Illustrative example. Force = projected area × clamp factor K × safety factor S. PP, PE and PS are commonly given 2 to 3 US tons per square inch^[6], about 0.28 to 0.42 t/cm²; K = 0.35 t/cm² and S = 1.15 assumed. Also assumed: 12 cm² and 4 g per cap, cold runner area 8 / 12 / 16 cm² and weight 6 / 9 / 12 g, 12 s cycle, 85% utilisation.

MACHINE UTILISATION AND PLANNED DOWNTIME

COLOUR CHANGES

Pastel and multi-colour ranges need planned sequencing and purging.

MATERIAL CHANGES

Switching between PP, PPSU and PC needs thorough purging.

DRYING

PPSU, PC, Tritan, ABS and PA need drying before use.

HYGIENE

Cleaning of machine area, hoppers and conveyors between runs.

Plan the product mix per machine: PPSU and PC products on machines set up for high barrel and mould temperatures, PP caps and spoons on machines with unscrewing and fast cycles, and tubs and chairs on machines with the platen and stroke they need. Fewer material changes per machine means less purging, fewer specks and less downtime.

SECTION 06 • AUTOMATION

AUTOMATION & PRODUCTION EFFICIENCY

Automation in baby care is as much about hygiene and handling as about labour. Fewer hands on a food-contact part means less contamination risk.

AUTOMATION	WHERE IT ADDS VALUE IN BABY CARE PARTS	WHEN IT USUALLY MAKES SENSE
Robot take-out	Removes clear bottles and sippers without scratches or fingerprints; places tubs and chairs on conveyors.	Clear or food-contact parts; large parts where manual removal varies the cycle.
Conveyors & covered chutes	Carry small caps and spoons away from the mould in a closed path.	Multi-cavity food-contact parts running continuously.
Closed material handling	Vacuum loaders, dryers and closed hoppers keep dust and moisture out.	PPSU, PC, Tritan and all food-contact grades.
Assembly	Fitting teats into caps, soother shields to teats, silicone tips to spoon handles.	Multi-part products at high volume.
Printing & decoration	Graduation marks, brand prints and decorations on bottles and containers.	Where marks are not moulded in.
Vision inspection	Detects specks, short shots, flash and missing holes.	Clear bottles, soother shields and any part with safety features.
Leak & fit testing	Checks bottle, cap and teat assemblies on the line.	Feeding bottles and sippers sold as assemblies.
Batch coding	Marks batch or date codes for traceability.	Products needing lot traceability for complaints or recalls.
Counting & packing	Counts parts into sealed bags or retail packs.	High-volume small parts; hygienic packing.

DECIDING ON AUTOMATION

HYGIENE Every manual touch is a contamination risk for feeding parts.	SURFACE QUALITY Clear and glossy parts are easily scratched or marked by hand.	VOLUME & LABOUR Caps, spoons and shields run in large numbers where assembly and packing labour add up.
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INTERFACES TO SPECIFY ON THE MACHINE

ROBOT Signal interface and safety interlocks for take-out and placement.	HOT RUNNER Zones for multi-cavity cap and bottle moulds.	MOULD HEATING Temperature control for hot PPSU and PC moulds.	CORE PULLS Unscrewing and slide circuits for caps and handles.
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WHERE THE COST OF A MOULDED PART COMES FROM

MATERIAL food-grade resin	MACHINE cost per machine hour	LABOUR handling, assembly	POWER incl. mould heating	MOULD amortisation, upkeep	REJECTION specks, flash, scratches	PACKING hygienic, retail
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PPSU costs far more than PP, so on premium bottles material and reject rates dominate. On PP caps and spoons, machine hours, assembly and packing labour usually matter more. Use your own rates to compare options.

SECTION 07 · QUALITY

QUALITY, TESTING & COMMON DEFECTS

Baby care quality is judged on safety first: materials, edges, detachable parts and leak-tight fit.

TESTS AND CHECKS

CHECK	WHAT IT INVOLVES	LINK TO MOULDING
Material compliance	Food-contact and bisphenol requirements for the market, for example IS 14625 for feeding bottles in India ^[1] and the EU BPA rules ^[3] . Grade declarations from the resin supplier.	Correct grade, no mix-ups, controlled regrind
Soother safety	EN 1400 covers shield size, ventilation holes, ring or knob integrity, tensile and puncture tests and detachable parts ^[4] .	Hole and ring dimensions, weld lines, part strength
Sterilisation resistance	Repeated boiling or steam cycles, then checks for cracking, clouding or distortion, as specified.	Moulded-in stress, drying, grade
Leak & fit	Bottle, cap and teat or sipper assemblies filled and inverted or pressurised.	Thread accuracy, sealing faces, flash
Dimensional	Threads, neck finish, graduation positions, buckle and latch geometry.	Shrinkage, cavity match, cooling
Strength	Load and drop tests on chairs, potties, tubs, pram parts and buckles, per the applicable product standard.	Weld lines, voids, fibre orientation

Test methods and limits come from the standard or customer specification for each product. Confirm the current edition and whether certification applies in your market.

IN-PROCESS CONTROLS

WEIGHT BY CAVITY Regular weighing flags short shots and drift early.	THREAD GAUGES Go / no-go checks on caps, bottles and containers.	VISUAL & LIGHT TABLE Specks, flash and edges on clear and mouth-contact parts.	TRACEABILITY Resin lot, date and cavity tied to each batch.
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TROUBLESHOOTING COMMON DEFECTS

DEFECT	POSSIBLE CAUSES	EFFECT ON THE BABY CARE PART	AREAS TO INVESTIGATE
Flash	Worn shut-offs, low clamp, high pressure	Sharp edges a child can touch or mouth	Parting line, clamp setting, pressure profile
Black specks	Contamination, degraded material, dirty hopper	Rejects on clear bottles and sippers	Material handling, purging, residence time
Splay / silver streaks	Moisture in PPSU, PC, Tritan or PA	Poor clarity, lower strength	Dryer settings, dew point, hopper time
Stress cracking	Moulded-in stress, cold mould, sharp corners	Cracks after sterilisation, often at threads	Mould temperature, hold pressure, corner radii
Sink marks	Thick bases, handles and bosses	Poor appearance; weak sealing faces	Wall design, hold pressure and time
Warpage	Uneven cooling on large flat parts	Rocking tubs and potties, poor lid fit	Cooling layout, gate position, packing
Short shot	Blocked vents, low shot, unbalanced filling	Missing ventilation holes or thread starts	Venting, runner balance, injection speed

SECTION 08 · WORKED EXAMPLES

PRACTICAL MACHINE-SELECTION EXAMPLES

Three typical baby care parts show how the selection logic changes with the component. These are engineering illustrations with assumed inputs, not customer case studies.

A · PP FEEDING BOTTLE CAP		VOLUME + FIT
APPLICATION · MATERIAL	Screw ring and hood for a feeding bottle · food-grade PP	
CHARACTERISTICS	About 4 g, 12 cm ² projected area (assumed); internal thread, teat clamping face	
CAVITIES · OUTPUT	16, cold runner · about 4,080 per hour (Section 05)	
MOULD CONSIDERATIONS	Unscrewing or collapsible thread cores, clean shut-offs at the teat face	
SECONDARY	Teat insertion and assembly, counting, hygienic packing	
EVALUATE The Section 05 table gives about 82 t calculated and a 73 g shot, so a clamp rated around 97 t or more. Unscrewing circuits and repeatable thread quality matter as much as tonnage. STILL NEEDED CAD projected area, hot or cold runner, thread design, target volume.		

B · PPSU FEEDING BOTTLE BODY		CLARITY + HEAT
APPLICATION · MATERIAL	Premium sterilisable feeding bottle · PPSU ^[5]	
CHARACTERISTICS	Clear, thin-walled body with neck thread and graduation marks	
CAVITIES · OUTPUT	Low cavity count · volume set by brand sales plan	
MOULD CONSIDERATIONS	Hot, polished mould; long core; gate away from the visible wall. Some designs are injection-blow moulded instead	
SECONDARY	Printing of marks if not moulded in, assembly with cap and teat	
EVALUATE First confirm the process: straight injection moulding suits open, core-pulled bodies, while shaped bodies may need injection-blow moulding. Then check drying, high barrel and mould temperatures and clean handling. STILL NEEDED bottle drawing, grade, cavity plan, sterilisation specification.		

C · BABY BATH TUB		SIZE + STIFFNESS
APPLICATION · MATERIAL	Infant bath tub · PP or HDPE	
CHARACTERISTICS	Large, fairly thin part with ribs, drain plug seat and smooth inner surface	
CAVITIES · OUTPUT	1 cavity · about 51 per hour at a 60 s cycle (Section 05)	
MOULD CONSIDERATIONS	Long flow paths, even cooling to control warpage, large mould size	
SECONDARY	Drain plug and accessories fitting, packing	
EVALUATE Tonnage cannot be set without projected area. Mould width, height, stroke and shot weight will likely decide the machine. STILL NEEDED tub drawing, wall thickness, mould size and weight, colour range.		

WHAT DECIDED THE MACHINE IN EACH EXAMPLE

SELECTION FACTOR	A · BOTTLE CAP	B · PPSU BOTTLE	C · BATH TUB
Main limit	Threads, cavity count	Process route, clarity, heat	Mould size, stroke
Clamp force	Set by 16 cavities (about 97 t rated)	Needs projected area	Needs projected area
Auxiliaries	Unscrewing, counting, conveyor	Dryer, mould heater, robot	Robot, conveyor

Illustrative example. Actual requirements depend on the component, material, mould and production conditions.

SECTION 09 • BUYER CHECKLIST

MACHINE BUYER'S CHECKLIST

What to prepare before asking an injection moulding machine manufacturer for a recommendation on a baby care component.

COMPONENT

- ☐ 2D drawing and 3D CAD model
- ☐ Part weight, runner weight, wall thickness
- ☐ Material grade and food-contact documents
- ☐ Critical dimensions: threads, holes, latches
- ☐ Clarity, colour and surface requirements

PRODUCTION

- ☐ Monthly and yearly volume per product
- ☐ Colour and size variants
- ☐ Cavity count and target cycle time
- ☐ Operating hours and shifts
- ☐ Assembly and packing plan

MOULD

- ☐ New or existing mould; size and weight
- ☐ Hot or cold runner; number of zones
- ☐ Unscrewing cores and slides
- ☐ Mould temperature needed (PPSU, PC)
- ☐ Previous machine specification, if any

BABY CARE APPLICATION

- ☐ Target markets and applicable rules
- ☐ Food or mouth contact, and bisphenol limits
- ☐ Sterilisation method and number of cycles
- ☐ Product safety standard (for example EN 1400)
- ☐ Hygiene requirements for the moulding area

DOCUMENTS TO REQUEST FROM THE MACHINE SUPPLIER

PLATEN DRAWING

Tie-bar spacing, mounting holes, ejector pattern, nozzle details.

LAYOUT

Footprint, robot and conveyor space, access for cleaning.

UTILITIES

Connected load, cooling water, air and oil needs.

TRIAL REPORT

Trial or acceptance data at your settings.

QUESTIONS TO ASK BEFORE YOU BUY A MACHINE

#	QUESTION	WHY IT MATTERS FOR BABY CARE PARTS
1	What barrel temperatures and screw options suit PPSU as well as PP?	PPSU runs far hotter than PP.
2	What shot repeatability does the machine hold at my shot size?	Thread fit and wall thickness on caps and bottles.
3	How many unscrewing and core-pull circuits are available?	Threaded caps and containers.
4	How many hot-runner zones can the control run?	Multi-cavity caps and bottles.
5	How easy is the hopper, barrel and machine area to clean?	Hygiene and colour or material changes.
6	Will my largest mould fit, with the stroke it needs?	Tubs, chairs and potties.
7	What robot interface is supported?	Handling clear and food-contact parts.
8	Can the control store settings for each mould, material and colour?	Frequent changes between PP, PPSU and colours.
9	What mould temperature control can be connected?	Hot moulds for PPSU and PC.
10	What installation, training and spare-parts support is included?	Reliable uptime for retail supply commitments.

SECTION 10 • TECHNICAL CONSULTATION

PRATISHNA ENGINEERS & TECHNICAL CONSULTATION

Pratishna Engineers Ltd. is a Mumbai-based injection moulding machine manufacturer with in-house design, manufacturing, assembly, testing and service, supplying plastic component manufacturers in India and international markets.

35+

YEARS OF EXPERIENCE

9,000+

MACHINES SUPPLIED

1,000+

CUSTOMERS

In-house

DESIGN TO SERVICE

Machines are used for automotive, packaging, electrical and electronics, medical, consumer, agriculture and industrial applications.

OUR TECHNICAL APPROACH

COMPONENT	MATERIAL	MOULD	PRODUCTION REQUIREMENT	MACHINE CONFIGURATION
1 • CALCULATE Clamp force and shot weight from part, cavities and grade.	2 • CHECK THE MOULD Size, stroke, core pulls and inserts.	3 • CHECK OUTPUT Cycle and cavities against your volume.	4 • CONFIGURE Screw, barrel, controls and auxiliaries.	

SEND YOUR COMPONENT & PRODUCTION REQUIREMENTS

Component drawing • material • part weight • mould details • cavity count • production requirement • other process requirements such as clarity, sterilisation or hygiene needs.

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