1. I'm xxx from yyy. I began my career in 2002 in the flexible packaging industry, where I worked for about three and a half years. Later, I moved into the pharma packaging field with **ACG Pharmapack**, where I spent nearly **nine and a half years**. During my tenure there, I worked across multiple functions, including **production, slitting operations, lamination, coating, and production planning**—essentially gaining exposure to every part of the industry.
2. In **2015**, I joined **Amartara** and worked there for around three and a half years. Subsequently, I was approached by the **Meghmani Group** in Ahmedabad, who wanted to enter the pharma packaging business. They requested my help in setting up their new plant, and I moved to Ahmedabad to establish their operations. There, I was responsible for setting up and running **calendering, slitting, coating, and other pharma packaging processes**. I worked with them for about two and a half to three years, helping them build the facility and stabilize production.
3. Having developed around **15–16 years of experience** in the pharma packaging domain, particularly with **PVC and PVDC films**, I had gained strong technical expertise in these materials. Around this time, I became interested in **lidding foils (Alu foils)**—the printed foils used in blister packs where medicine details are printed. This interest led me to join **MMP Industries** in Nagpur.
4. MMP was primarily engaged in the production of **aluminium powder**, but they had recently diversified into **aluminium foil manufacturing**. I joined them and gained hands-on experience in **lidding foils**, including **printing, coating, and lamination processes**. I worked there for about three and a half years. Later, **Amartara** again approached me to join their **new expansion project**, and I decided to return. I have now been with **Amartara, Baroda**, for around two years.
5. My **core expertise** covers **PVC–PVDC films, pharma packaging, aluminium foils, slitting, production planning, raw material management, and end-to-end plant operations up to dispatch**. Over my career, I've worked with nearly all the major companies in this field except Bilcare.
6. About six months ago, I received another offer, but I decided to stay back because we were in the process of commissioning a new line at Amartara. This new line is scheduled to start within the next few days, and once operational, our **capacity will double**.
7. In **PVC–PVDC films**, the PVC typically comes in **250, 300, and 350 microns**, while PVDC coating thickness ranges from **40 gsm, 60 gsm, 90 gsm**, and occasionally **20 gsm or 120 gsm**, though the latter two have relatively low consumption. Around **50–60% of production is 90 gsm**, **20–25% is 60 gsm**, and **15% is 40 gsm**. In exports, **60 gsm** is the most widely used.
8. Based on my experience, regions like **Europe and the Middle East** prefer **60 gsm** films because the climate there is moderate, with lower humidity and pollution levels. Hence, a **high-barrier 90 gsm** film isn't required. The **cost difference between 60 and 90 gsm** films is around **₹20–30 per kg**, which becomes significant when producing **10–20 tons**. The barrier performance between 60 and 90 gsm films isn't dramatically different, so the lower-cost option is preferred.

9. The **PVDC coating** is applied to enhance the **barrier properties** of the film. This process is done using a **reverse gravure coating machine**, which applies liquid coatings onto the film using **gravure rollers**. The coating process involves **three key chemicals**:

   Primer
   Basecoat (Technical name: A763)
   Topcoat (Technical name: 193D)

10. To explain it simply: the **primer** is applied first, followed by the **basecoat**, and finally the **topcoat**—like the beginning, middle, and end of a three-part process. The primer and topcoat are used only once in each coating cycle, while the basecoat determines the GSM level.
11. The coating is carried out **batch-wise**—for example, separate batches for 40 gsm, 60 gsm, or 90 gsm coatings.
    In each pass through the machine, roughly **20 gsm** of coating is applied.
    A machine with **1+2 stations** can apply around **20 gsm per pass**, while one with **1+3 stations** can achieve **30–32 gsm per pass**.
    For instance, with our **1+2 station machines**, we achieve 20 gsm in the first pass and 40 gsm after the second pass. For **60 gsm**, we perform three passes, and for **90 gsm**, we may run four passes (about 23 gsm per pass) to reach 90–92 gsm.
12. These coatings are applied on **jumbo rolls**, which are later **slit into smaller rolls** based on customer specifications. For example, **Sun Pharma** typically requires rolls of **188 mm width**, while other clients such as **Alembic, USV**, etc., may have different size requirements. During slitting, we often process material for **3–4 customers simultaneously**, grouping similar specifications together. About **15–20 mm trimming** is left after slitting, and the final rolls—usually weighing **10–25 kg**—are prepared as per customer demand.
13. The industry has standardized the length of one **60 gsm or 40 gsm reel** at about **300–320 meters**, weighing around **20–22 kg**. Some customers, however, request **50 kg or 100 kg reels** for productivity reasons. For instance, **Alembic** operates large, high-speed tablet-filling machines that run continuously for 40–45 minutes per reel. If they use smaller 25 kg reels, they must stop the machine four times, causing inefficiency.
14. There's **no cost difference** between 25 kg and 100 kg reels—the price remains the same, though our **slitting machine** needs to run longer to produce larger reels. Packaging requirements are simpler for larger reels, which are usually palletized (400–500 kg per pallet) and handled efficiently by the customer.Packaging is saved it does not go in boxes, its edges are protected according to standards.
15. At Amartara, the **PVC film** used for coating is **50% imported and 50% domestically sourced**. Imported films offer slightly better aesthetic quality, but **domestic films** have improved significantly in recent years. Most customers, including major pharma companies, now approve domestic films after sample validation. Imported films face

challenges such as **anti-dumping duties and longer lead times**, making domestic sourcing more practical.

16. **India's PVDC packaging film industry** is strong and globally competitive, supplying to regions like the **USA, Australia, South America, and Europe**. The **PVDC coating chemicals** (primer, basecoat, and topcoat) come primarily from **Solvay (Italy/France)**, which is considered the most reliable supplier, though **Asahi** also provides alternatives.
17. Once coating and slitting are completed into baby rolls, **labeling and packing** are done as per customer requirements.

    For **new customer onboarding**, we first provide samples for **stability and forming tests**. After satisfactory test results, the customer conducts a **site audit**. Our plant holds **ISO 9001, ISO 14001, ISO 15378 GMP**, **US FDA**, and **Canada registration** certifications.

    If any observations arise during the audit, we typically get **15–30 days** to address them. Once cleared, we are added to the customer's **approved vendor list**.

    The overall process—from sampling to commercial supply—takes **3–6 months** for large clients and **1–2 months** for smaller ones.
18. In exports, audits are often done **remotely through third-party agencies**. After approval, export orders start flowing. Combining major players like **Bilcare, ACG, Caprihans, Amartara**, and others, the total PVDC film market in India stands at about **2,500–3,000 tons per month**, and including smaller players, the total reaches around **7,000–8,000 tons per month**.
19. Several new coating lines are coming up and more 3-4 coating machines are coming. We already have a customer base ready so we don't have to sample again, we just have to increase capacityWe are coming up with 1 line and bilcare is planning for 1 new line—each typically adding **300–400 tons per month** capacity depending on machine specifications. We're also commissioning our own new line shortly, which will take our capacity from **350 tons/month to around 550 tons/month**.
20. Our plant alone currently produces about **500–550 tons per month**, of which **150 tons** are exports. Despite this, we still end up with **pending orders** at month-end due to strong demand.
21. There's no significant quality hierarchy among players like ACG, Bilcare, and Amartara—all maintain top-grade standards. The difference often lies in **customer familiarity and machine compatibility**. Once a pharma company's forming machine is optimized for a specific supplier's film, they tend to stay with that source unless major issues arise.
22. To ensure quality, we conduct rigorous **in-process checks** at every pass. After each coating pass (1st, 2nd, 3rd), we take small roll samples. From these, 10x10 cm pieces are cut from different spots and dipped in ethyl to separate the PVC and PVDC layers. After drying, the PVDC layer is weighed to confirm the target GSM—typically **20 gsm per pass**.
23. In our line of work, we often need to adjust formulations based on customer machine requirements. For instance, if a customer has a **high-speed blister machine** and our film does not perform optimally on it, we coordinate with our **PVC supplier** and fine-tune the formulation to make it suitable for high-speed operation.

24. One of our key customers in the **UK** consumes around **60–70 tons of film per month**. Initially, they faced issues running the film on their high-speed line. After carefully modifying the formulation, the film began running smoothly at **400 blisters per minute**, and the customer was extremely satisfied. They are now planning to visit our plant.
25. In the rare situation where a particular lot doesn't perform well at high speed, we recommend the customer use it on a normal-speed line. We then provide a **10–20 kg sample** of the revised material for trial. If that sample runs successfully at high speed, we adopt the same formulation for future production. Such issues are uncommon because most of our films work well across different machines.
26. The current **market rate for PVDC film** is around **₹ 290–310 per kg**, while **ACG** and **Bilcare** typically charge about **₹ 10–20 more**. ACG enjoys a strong market presence since it offers **gelatin capsules, films, and tableting machines**—a complete one-stop solution for pharmaceutical companies.
27. The overall **PVDC market** is sizeable, at roughly **7,000–8,000 MT per month**, and several new production lines are being commissioned. Capacity depends on the machine width and coating stations: a **1500 mm-width machine** with **1 + 2 stations** usually produces about **300 MT per month**, while a **1 + 3 station** configuration yields **350–400 MT**.
28. I am familiar with **Wahren** in Noida, another active player in this space. Success in this industry requires **patience**—established suppliers already hold strong positions—but once you enter the market and maintain **consistent quality and service**, volumes can rise steadily. What begins as **1 ton per month** can soon grow to **10 tons or more**.
29. When I joined **Amartara**, for example, **YYY Laboratories** would not even approve our samples. In **2015**, they were unwilling to evaluate our material. I discussed the issue with my management, pushed for one trial, and after consistent follow-up, we gradually increased supplies—from **500 kg–1 ton** initially to **40 tons per month by 2018**. IPCA still sources around **100 tons** from ACG, and I stay personally involved with them to address any concerns.
30. A similar journey happened with **AAA Pharma**: we began with just **2 tons** and now supply **50 tons per month**. These experiences proved that having the **right operator and correct PVC–PVDC quality combination** is crucial for optimal film performance.
31. Before dispatching any material to a customer, we carry out rigorous **in-process and quality checks**. Each coating run involves **three passes**. After the **first pass**, the PVDC coating should achieve about **20–21 GSM**. From that roll, we cut **10 × 10 cm** samples from several points, dip them in **ethyl solvent** to separate the PVC and PVDC layers, dry them, and then weigh the PVDC layer to confirm the coating weight.
32. After all three passes, the cumulative coating reaches approximately **60 GSM**. We then take a **1-meter sample** for detailed testing in the **quality department**, where several evaluations are performed:
33. **Thermoforming test:** to check for residual moisture or bubbles. PVDC is a water-based chemical; after drying, it forms a transparent coating, and thermoforming confirms that no moisture remains.

34. **Dart-impact test:** a **300–400 g** weight is dropped onto a **100 cm-periphery** film sample to verify that it does not break.

35. **Color and shade verification:** ensuring transparency or green/peach hues match customer requirements.

36. **Bonding test:** sharp knife cuts are made, tape is applied and quickly removed; if the PVDC layer lifts, bonding is inadequate.

37. These tests guarantee that only stable, high-performance material is shipped to customers.
38. I know most people in the PVDC domain. For example, **Wahren** recruited **AAA** for PVDC. Although I left ACG ten years ago, I still know many of the team. When I joined ACG, its output was about **200–250 MT per month**; by the time I left, it had reached **1,800 MT**—its golden period.
39. My friend **AAA**, who trained under me at **Universe**, is now the **Planning Head at Wahren**. He also came from Universe, where I taught him all the key parameters. He recently told me about **Wahren's new PVC-calendering project in Hyderabad**, for which they need someone with PVC process experience. I was approached for that role as well. If you are giving alu alu is it easier to give PVDC as well.
40. Although I currently work as a **Manager**, and don't personally operate the machines, I still troubleshoot issues on the floor when required. While I haven't handled a calender myself, I understand the **entire process flow and planning sequence**—from color-run setups to formulation adjustments.
41. Once a sample is approved and stability testing is complete, the turnaround is quick: we typically receive a **400–500 kg** commercial order almost immediately. Documentation requirements are the same for **Alu-Alu** and **PVDC**, so a full plant audit is often unnecessary for customers who already work with us. Because we already have established PVDC customers, we sometimes source **Alu-Alu** film externally, slit it in-house to the required widths, and supply it as part of our offering.
42. To give you a sense of industry capacities: **Bilcare** and **ACG** each run about **300 MT per month**, **Universe** around **250–300 MT per month**, **Svam** approximately **1,000 MT per month**, and **Ultrafoil** and **Uflex** about **300–350 MT per month**. Setting up Alu-Alu takes time because the supply chain must be aligned — **aluminium foil** typically comes from **Hindalco**, **OPA** (nylon) is imported from **Malaysia**, and PVC manufacture was historically concentrated at **Universe**. When I was at Universe, our Alu-Alu volumes reached about **170 MT per month**

43. As for the market, even if **500–1,000 tons of new PVDC capacity** enter each month, I don't see an **oversupply**. Most suppliers already hold **open orders of 50 tons or more**, and demand remains robust. Various reports project **around 130% growth in PVDC demand by 2028**.
44. One interesting factor driving this is **changing prescription behavior in Europe**. Earlier, doctors there prescribed **3–5 days of medicine**, packed in small tin containers.

Now, the trend is shifting toward **blister packs**, much like in India, where customers often buy partial strips. This shift has sharply **increased PVDC consumption**.

45. While **Alu-Alu foil** provides a **2–3-year shelf life** and is used for critical medicines, everyday formulations are moving toward **PVDC blister films**. Products once sold in PVC are now migrating to PVDC—up to **50% of the category**. But they are taking 40gsm. During my ACG days, we sold **400 T of PVDC** and **500–600 T of PVC** per month; today, those numbers have reversed, with roughly **200 T PVC** and **700–800 T PVDC** being sold.
46. At present, our **new 200-ton line** is scheduled for trial, which will bring our total PVDC capacity to **around 550 T per month**.
47. Anyone who wishes to gain a real understanding of **PVDC manufacturing, coating, and quality systems** should visit the plants of **Bilcare, ACG, or Amartara (Gujarat)**—each provides a complete view of the process from raw material to final film.