

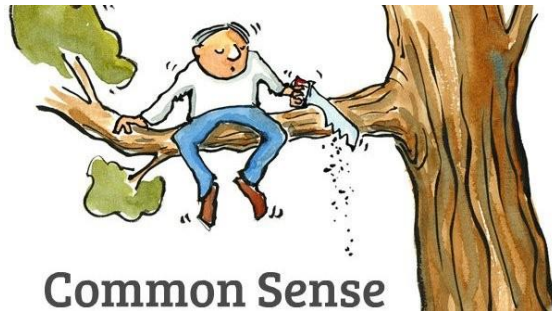
Commentary-Dave Pasolli-Western Wood Truss Association of Alberta

The Importance of Common Sense in Manufacturing

It is a thousand times better to have common sense without education than to have education without common sense.

- Robert Green Ingersoll

In the complex and fast-paced world of truss manufacturing, common sense often proves to be an invaluable asset. It serves as the bedrock for decision-making, problem-solving, and overall operational efficiency. While advanced technologies, sophisticated machinery, and detailed processes are integral to manufacturing, common sense can significantly enhance safety, productivity, and quality.



Defining Common Sense in Manufacturing

Common sense in manufacturing refers to practical judgment and sound reasoning based on experience and a fundamental understanding of operations. It involves making decisions that are logical, safe, and efficient, often relying on intuitive knowledge rather than strict adherence to protocols. This does not undermine the importance of standard procedures but complements them by adding a layer of practical wisdom.

After seeing hundreds of trusses manufactured, I believe that an experienced builder should be able to say “something about this just does not look right.”

Enhancing Safety

Safety is paramount in any manufacturing environment. Common sense plays a crucial role in maintaining a safe workplace. Employees who exercise common sense are more likely to recognize potential hazards and take proactive measures to prevent accidents. For instance, a worker might notice an unusual noise from a machine and decide to stop it immediately for inspection, preventing a potential malfunction or injury. Common sense helps bridge the gap between theoretical safety protocols and real-world application, fostering a culture of vigilance and responsibility.

Just like when you are driving down the road and feel a little sleepy, your common sense should tell you to take a break.

I often find that a lot of safety principles are designed by people that have never actually done the job they are designing them for. They often also use terminology in ways that the workers doing the tasks do not understand the concepts.

Improving Efficiency

Efficiency in manufacturing is about maximizing output while minimizing waste and downtime. Common sense can streamline operations by facilitating quick, effective decision-making. For example, if the lumber in a bottom chord splice keeps breaking after rolling, a builder with common sense might suggest a minor adjustment to the pressing process to rectify the issue, rather than rebuilding trusses. This proactive approach can save time and resources, enhancing overall productivity.

Ensuring Quality

Quality control is essential to manufacturing, ensuring that products meet specified standards and customer expectations. Common sense contributes to quality assurance by enabling employees to identify and address anomalies swiftly. For instance, if a product looks different from usual, a worker might use their common sense to halt production and investigate, thereby preventing defective trusses from reaching customers. This practical approach helps maintain high-quality standards and reduces the risk of costly recalls or customer dissatisfaction.

If a worker feels that a piece of lumber is of bad quality and will likely split or break when pressing they may address it instead of assuming that because it is the correct grade that it should be acceptable.

Facilitating Problem-Solving

Manufacturing environments often encounter unforeseen problems that require immediate attention. Common sense is a valuable asset in such scenarios, allowing employees to think on their feet and devise practical solutions. For instance, if a saw is out of calibration, a worker might use common sense to stop production even though the shift is almost over, and it is scheduled to be calibrated tomorrow.

If a shipper notices that a member is damaged, or a plate is missing in a truss they are better to resolve the problem before the truck gets loaded.

Supporting Training and Development

Incorporating common sense into training programs can enhance the overall competency of the workforce. New employees often benefit from learning practical insights and tips from experienced colleagues who apply common sense in their daily tasks. This knowledge transfer can accelerate the learning curve, helping new hires understand not just the “how” but also the “why” behind certain practices. Emphasizing common sense

in training promotes a holistic understanding of operations and fosters a more skilled and versatile workforce.

Encouraging Innovation

Innovation in manufacturing is not just about cutting-edge technology; it also involves improving existing processes and practices. Common sense can drive innovation by encouraging employees to think creatively and suggest improvements based on their day-to-day experiences. Simple yet effective changes, such as rearranging a workstation for better ergonomics or adjusting a process to reduce waste, often stem from common-sense observations. These incremental innovations can collectively lead to significant advancements in efficiency and productivity.

Workers should be encouraged to bring their suggestions to management. Quite often the worker on the production line has a greater insight into how a truss could be configured than the designer.

Conclusion

Common sense is an indispensable component of successful manufacturing operations. It enhances safety, improves efficiency, ensures quality, facilitates problem-solving, supports training, and encourages innovation. By valuing and integrating common sense into manufacturing practices, organizations can create a more resilient, agile, and productive environment. In our industry where precision and reliability are critical, the practical wisdom of common sense serves as a vital complement to technical expertise and formal procedures.

You know that voice in your head just before you do something that you know is not right telling you that you should not do it. Strangely enough, you don't have to listen to it and of course what that voice told you was going to happen actually does happen. Listen to that voice in your head.

If you have an idea for a commentary or would like to submit your own commentary for a future newsletter please let me know at dave@wwta.ab.ca

Economic Update

In Alberta, urban housing starts totaled 3791 in June 2024, a year-over-year increase of 60%. Canadian housing starts declined by 12.8% over the same period. Edmonton had another strong month with a 54% increase compared to June 2023, and Calgary was also up by 59%. Housing starts in Alberta were down from 4113 the previous month of May 2024.

Housing Starts Alberta						
	Jun-24	Jun-23	% Change	YTD 2024	YTD 2023	% Change
Alberta	3791	2368	60.09%	21509	14014	53.48%
Edmonton	1475	960	53.65%	8448	5027	68.05%
Calgary	1966	1239	58.68%	11178	8106	37.90%
Red Deer	9	7	28.57%	278	95	192.63%
Grande Prairie	29	9	222.22%	111	41	170.73%
Lethbridge	32	28	14.29%	289	79	265.82%
Wood Buffalo	8	4	100.00%	12	13	-7.69%
Whitehorse*	12	64	-81.25%	12	106	-88.68%
Canada	20509	23518	-12.79%	110251	103153	6.88%

*Whitehorse Starts are for the quarter, statistics are not available monthly.

Housing Starts by Dwelling Type (Centres 10K+)

	JUN-24	JUN-23	YTD-24	YTD-23
Total	3,791	2,368	21,509	14,014
Single	1,586	1,149	6,949	5,131
Semi-detached	338	205	1,792	1,258
Row	587	496	2,967	2,453
Apartment	1,280	518	9,801	5,172

Hammering it home - Alberta's hot streak continues on residential construction **ATB**

As we [noted](#) this week, home construction has been a tear in the province. So impressive that our forecast can't keep up. We've been consistently upgrading our housing starts forecast for Alberta, and now our June call for 42.9K for the year looks too low (again). Home construction is one of the factors pushing Alberta's GDP growth ahead of the national average in our latest forecast.

Why have we been surprised? We knew the demand was there from record population growth, but also saw headwinds from labour shortages and the dampening impact of higher interest rates. But the industry has stepped up to the plate with the longest run of 40K+ (annualized) starts since the natural gas-driven boom of the mid-2000s when starts were over 40K for 27 months in a row (Sept. 2005 to Nov. 2007). It's too soon to change

a forecast that's been sitting on the shelf for one month, but based on the latest data, it's fair to say our housing start forecast looks on the low side. All that said, Alberta is still in catch up mode and many more homes need to be built.

Single-detached starts have moved higher but over two-thirds of the YTD aggregate increase has come from multi-units which were sitting at the highest point on record for the first six months of the year.

Regionally, Calgary and Edmonton have been building momentum since the end of last year with the former hitting a decade high back in September 2023. Edmonton has been playing catch up, but YTD starts were up by 67% through June.

Alberta's housing construction performance looks even more impressive when compared to the national picture. After a few upticks at the end of 2023, home construction activity shifted into reverse gear across most other regions. Despite a buffer from Quebec (+37% YTD), starts in the rest of the country edged down 1% YTD from 2023.

The ongoing housing construction upswing is in line with [our latest economic outlook](#) and is helping to meet the demand brought on by [strong population growth](#). While the new construction is welcome news, one of the key factors holding back an even hotter pace of new construction is the [ongoing shortage of skilled workers](#).

Home construction is one of the key factors, along with rising energy production, pushing Alberta's forecast of real GDP growth ahead of the national average

The seasonally-adjusted price of a benchmark home* on the resale market in Alberta increased for the 19th month in a row in June by 0.6%.

On a year-over-year (y/y) basis, the provincial benchmark price of \$509,100 was 8.9% higher than the same month last year.

In Calgary, the y/y benchmark price was 8.7% higher at \$578,800 in June; in Edmonton, it increased by 7.3% to \$391,200.

While prices have been rising steadily in Alberta since the end of 2022, the national average has lost ground. At \$717,700 in June, the national benchmark price was 3.6% lower y/y.

The price increases in Alberta have reduced the size of the gap between the provincial and national benchmarks by almost 25% compared to June 2023, but it remains sizable at \$208,600.

The availability of houses for purchase on the resale market is one of the key factors explaining the different price tracks Alberta and the country as a whole are on. In Alberta, there were 2.4 months of inventory** in June—the lowest of any province—

compared to 4.2 nationally.

Although builders have picked up the pace of new home construction in the province, relatively strong population growth in Alberta means the supply challenge is not going away any time soon.

Summer doves: Bank of Canada cuts again

Mark Parsons, ATB ECONOMICS

As we expected, the Bank of Canada pulled the trigger for the second month in a row, lowering its policy rate from 4.75% to 4.5%. The market, which fully priced in a cut, also got it right.

In today's announcement, the Bank of Canada sounded more confident that inflation is trending in the right direction. The Bank talked about "signs of slack in the labour market," "excess supply," and how "broad inflationary pressures are easing."

The Bank has been in 'wait and see', data dependent mode. So let's recap some of the data since June that in our view supported today's cut: 1) the annual inflation rate fell from 2.9% in May to 2.7% in June, marking the sixth month in a row that inflation has held in the 1-3% control range; 2) the latest jobs report showed the unemployment rate rising to 6.4% in June; 3) last week's retail sales numbers posted another decline; and 4) indications that short-term consumer inflation [expectations are falling](#).

The data point that likely sealed the deal was June's inflation number. An uptick in inflation would have made a cut much more challenging to communicate.

If there was any hesitation and debate in the Bank, it may have come from [sticky core inflation](#) (edging higher on a three-month moving average basis) and the combo of high wage growth/weak productivity. The Bank noted that wage growth is elevated and the challenges this poses for service inflation in particular. But it also suggested these wage pressures are easing.

Overall, the Bank found enough evidence that inflation is moving in the right direction. Just like his U.S. counterpart Jerome Powell in recent days, Tiff Macklem sounded more confident today. In fact, Macklem even talked about inflation falling too much. This is the key paragraph from the press conference that conveys more dovish confidence:

*"In recent months, we have continued to make progress bringing inflation down. With the target in sight and more excess supply in the economy, the *downside risks are taking on increased weight in our monetary policy deliberations. We need growth to pick up so inflation does not fall too much*, even as we work to get inflation down to the 2% target."*

The [Monetary Policy Report](#) (MPR) provided a fresh set of projections—something that happens four times a year. It's not as cheery as last week's International Monetary Fund

real GDP [forecast](#) (1.3% in 2024, 2.4% in 2025) and slightly below the Bank’s April expectations. The updated forecast is 1.2% in 2024 and 2.1% in 2025, closely aligned with our own. The inflation forecast didn’t change much from April, holding at 2.6% in 2024 and up a tad in 2025 at 2.4%.

Closer to home, the Bank noted that export growth will be led by oil production, with new capacity coming online from the Trans Mountain Expansion (TMX). Sound familiar? Oil exports are a major growth driver in our latest [Alberta Economic Outlook](#). The Bank also noted that this additional egress should lead “businesses to increase investment in oil and gas production.”

The key thing in the MPR is that the Bank talks about more excess supply in the economy than previously expected: “excess supply is expected to be slightly larger over the course of the projection horizon.” This points to less underlying inflationary pressures. The Bank notes that excess supply will be gradually absorbed, in part because new limits on temporary residents will slow population growth in 2025.

The MPR now says that they are expecting Canada to “sustainably reach the 2% target in the second half of 2025,” a slightly stronger tone than “near the end of 2025” in its April assessment.

Of course, there is always the risk that inflation could reignite with a slightly looser monetary policy. The Bank of Canada talks about geopolitical developments and service price inflation as the main upside risks. But these risks need to be carefully balanced against the risk of the economy tipping into a recession, inflicting more damage than necessary to get inflation back to 2%. Even as rates grind lower, monetary policy remains restrictive. Consumers will still reset at higher rates and longer term loans already reflect rate cut expectations. The economy is expected to hobble along before a meaningful improvement later this year and next year. And once the dust settles, the landing spot for the policy rate is closer to 3%, not returning to near zero from before.

To recap, the Bank is still in the early innings of unwinding its rate hikes, after the most aggressive rate hiking cycle since the early 1990s. The Bank of Canada raised its policy rate from 0.25% in February 2022 to 5% in July 2023 (where it stayed until June 2024).

Our quick take: The right call for the moment—an economy now struggling from previous rate hikes and evidence that inflation pressures are easing.

Monetary policy is often said to be a blunt instrument—it cannot solve all economic problems (including Canada’s sluggish productivity). But given what the Bank has to work with, another cut is the right medicine. This move will help variable rate borrowers, but won’t suddenly restore affordability. The main thing it does is help improve confidence, providing a signal that the inflation problem is moving closer to the rearview mirror.

In short, a step in the right direction on the long and bumpy road back to ‘normal’.

US HOUSING STARTS, BUILDING PERMITS, AND COMPLETIONS ALL RISE IN JUNE

The US Census Bureau reported that privately-owned housing starts were at a seasonally adjusted annual rate (SAAR) of 1,353,000 in June. This is 3.0% above the revised May estimate of 1,314,000 but 4.4% below the June 2023 rate of 1,415,000. Single-family housing starts were at a rate of 980,000; this is 2.2% below the revised May figure of 1,002,000. The rate for units in buildings with five units or more was 360,000.

Building permits are the forward-looking portion of the report, and privately-owned housing units authorized by building permits were at a SAAR of 1,466,000 in June. This is 3.4% above the revised May rate of 1,399,000 but 3.1% below the June 2023 rate of 1,493,000. Single-family authorizations were at a rate of 934,000; this is 2.3% below the revised May figure of 956,000. Authorizations of units in buildings with five units or more were at a rate of 460,000.

Privately-owned housing completions were at a seasonally adjusted annual rate of 1,710,000 in June. This is 10.1% above the revised May estimate of 1,553,000 and 15.5% above the June 2023 rate of 1,480,000. Single-family housing completions were at a rate of 1,037,000; this is 1.8% above the revised May rate of 1,019,000. The rate for units in buildings with five units or more was 656,000.

Lumber



Lumber prices surged above \$500 per thousand board feet, rebounding from a year-and-a-half low of \$419 on July 15th, driven by rising demand expectations for wood and construction materials. Dovish signals from major North American central banks, as easing inflation and a cooling labor market in the US and Canada raised hopes for accommodative monetary policies, potentially leading to lower bond yields and improved mortgage rates. Concurrently, the latest average rate for a 30-year fixed mortgage fell to a four-month low of 6.77%, and both building permits and housing starts exceeded estimates, indicating a rebound in homebuilder sentiment.

Comment on Countervailing Duties

Canadian Engineered Wood Products

An important note to all who utilize Canadian lumber; the U.S. Department of Commerce has indicated its intention to increase tariffs on imports of Canadian softwood lumber products. The current average rate of 8.05% is set to rise to an average of approximately 14% after the department's annual review of existing tariffs. The increase is anticipated to be implemented in early August 2024.

The impact that these increases will have on both the lumber market, and cross-border fibre supply, and how mills will address cross-border business going forward remains to be seen. As of today, we have seen a handful of instances where Canadian mills have either pulled back on quoting on some items or have increased pricing when quoting into the US. One possible avenue for mills may be the return of a larger discount, above the current 5% rate, on loads of Canadian-produced lumber sold within Canada, which was once the case.

These increases represent a significant additional headwind to Canadian mills at a time when many are facing record production costs, pricing at multi-year lows, and eroding volumes of harvestable fibre. On top of that, mills face difficult decisions when it comes to sustaining existing skilled labour pools while maintaining operations into the future.

It is likely housing affordability will be affected as duties on softwood imports essentially act as a tax on builders and buyers of homes built in America.

[June Marks Highest Yearly Increase in Building Material Prices Since February 2023 \(eyeonhousing.org\)](#)

[First Cut: The math isn't math-ing - Wood BusinessWood Business](#)

Quality Control

Sheathed Gable Trusses

So, the question of plating both sides of the vertical studs on a sheathed gable truss came up the other day. Is it acceptable or not? Like most yes or no questions the answer is that it depends.

To answer the question, I got a little help from Jesse Van Duffelen from Alpine.

If the members are structural or analyzed in the design of the truss, then plates must be installed as per the truss shop drawing.



Plates installed under sheathing on vertical members

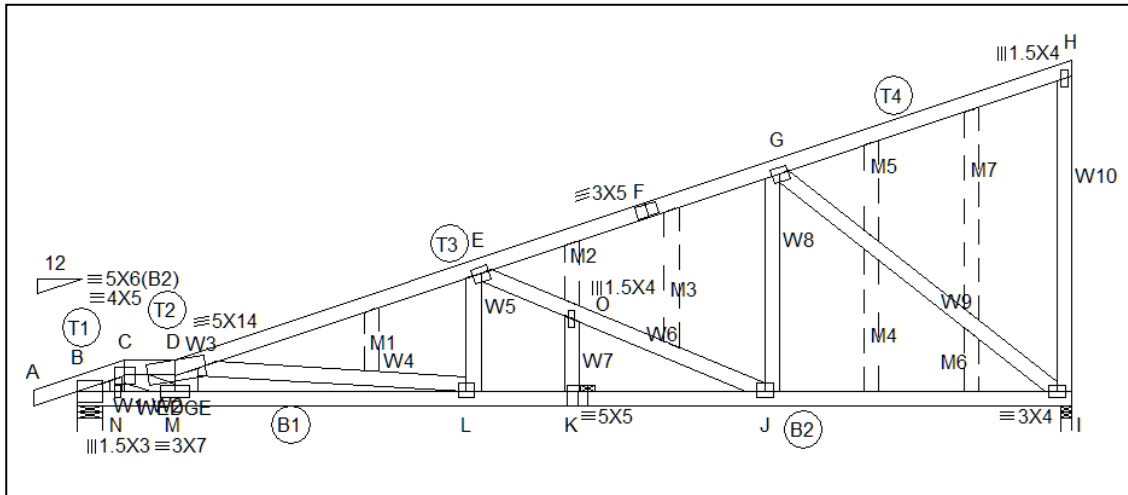
If the designer specifies that the studs are non-analyzed, it may be acceptable to only plate the opposite side of the sheathing. You would still have to attach them with some fastener.

As a truss builder how do you know?

Well, there will be a note on the shop drawing indicating that the studs are not analyzed, it will look something like this:

Gable Studs

Dashed pieces are not analyzed and are optional; and may be attached at each end to adjacent pieces and members with connector plates, staples, nails, or other fasteners.



Truss diagram with non-analyzed vertical members. Note that W7 at joint K is indicated as analyzed because it happens to be located at the bottom chord splice.

The question then becomes is it worth it to save the quantity of 1x3 plates. In my opinion, probably not as the builders will have to be familiar with which plates are required and which can be eliminated. The price of the truss probably includes the plates anyways.

The builders would also have to ensure that they plate the correct side of the truss. One of the most common customer complaint issues is that the gable is sheathed on the wrong side of the truss.

In most plants you also have to consider that the truss also has to be moved from the outfeed roller to the sheathing area before it is sheathed. Following this practice there is the potential that the truss will be very unstable during this transition.

You are probably opening yourself up to greater chance of creating a non-conforming quality issue if you choose to follow this practice by increasing the chance of human error.



Moving a gable truss from the roller to be sheathed

While we are on the topic of sheathing gables here is a good practice, I noticed that Tech-Wood was doing. The builder who has the shop drawing, marks on the truss where the sheathing is to be located and on which side. Below.



Health and Safety Toolbox

How to Reduce Heat on Factory Floors

As I was complaining about the heat at Westek last week, Rick reminded me that we would gladly pay for this heat on a winter vacation. High temperatures cause several problems for those who work on factory floors. As we head into the hottest part of the year, plant managers need to have a plan in place to reduce heat on their factory floors.

Health Risks

Heat presents several dangers if you work on a factory floor. Exposure to extreme heat or spending time in areas that aren't well ventilated can hamper the body's ability to maintain a healthy temperature. This leads to heat cramps, heat exhaustion and heat stroke, which can be deadly.

When employees work in high temperatures, they need to take frequent breaks, stay hydrated and eat healthy to stay safe. If you work in several areas that have different temperatures, you may need to dress in layers, so that you can ensure you're always wearing comfortable clothing.

If conditions are cooler, they'll also be able to work more efficiently and enjoy their work more. People can't get as much done when they're overheated and need to take frequent breaks. It's always important, though, to prioritize worker safety over efficiency. Taking steps to reduce heat on the factory floor reduces health risks and make it easier for workers to protect themselves. A comfortable work environment can increase productivity.

Prevent Equipment Failures

Heat can affect the health of employees and impact the health of your equipment. According to the Arrhenius Equation, an electronic device can operate for 32 years at 45° C and will last four years at 80° C. Needing to replace equipment more frequently leads to higher operating costs and hurts a company's bottom line.

Heat can hurt production levels by causing equipment to operate less efficiently or break down entirely. When equipment does fail due to heat, the issue can be hard to spot because the damage is often internal and damaged components may appear to be functioning correctly at first glance. It's often not until extensive testing is completed, that the damage can be located. This leads to even more downtime and lost productivity.

Longer Hours

When employees work longer hours and factories operate more frequently, temperatures and the risks associated with them can rise. Today, many factories operate around the

clock — meaning equipment has less time to cool down. Over a long workday, the heat produced by running machinery builds up and slowly raises the heat on the factory floor.

Factory workers also sometimes work longer hours than those in other professions. Some may choose to take on extra shifts to earn extra money through overtime pay. Quite often facilities have incorporated longer shifts with fewer days worked to increase productivity and give more days off.

While long hours come with problems of their own, when coupled with high temperatures, the risks are even higher. Controlling plant temperatures helps to protect workers' safety as well as factory productivity.

Hitting Production Goals

When factories are in a time crunch to hit their production goals, they need to crank up their operations to meet them. This can mean that both equipment and employees are working longer than they normally would.

All of this excess activity can cause temperatures to rise. When machines work harder, they generate more heat, which contributes to rising temperatures on the factory floor. If machines don't get time to cool down, they might produce even more heat, operate less efficiently and even break down.

Employees may also end up working harder, be less likely to take breaks and pay less attention to their own health in an effort to hit production goals. This increases the likelihood of heat-related health issues and makes them less productive even if they don't experience any adverse health effects. Because the company and its workers are in such a hurry to hit their targets, they may pay less attention to cooling solutions, which can hurt productivity in the long run.

Manual Methods of Reducing Heat

If the temperature becomes too high in your facility, and you need to cool it down, you can try a manual method of reducing heat on the factory floor. In more extreme cases, this may not be enough — its effectiveness depends on the setup of your building. However, manual methods are a practical first technique to try.

Open Doors and Windows

The first method is the simplest, but in some cases, it may be enough to fix the problem. Opening doors and windows as well as other openings can improve circulation, let hot air escape and lower the temperature of the building.

Opening doors and windows to the North and South is the most effective way to get air flow through a building. Opening higher windows works well to remove hot air, because warmer air rises. When you give hot air a place to escape, it will naturally rise up, leave

the building and be replaced with cooler air. Some buildings even have an opening in or near the roof that can open to let warm air escape into the atmosphere.

Workers may not be as happy with just opening windows in high places though, because they can't feel the cool air coming in due to the windows' height. So, if your main goal is to make workers feel more comfortable, open ground floor doors and windows as well. Another disadvantage of this method is that the areas around the openings will be cooler than others and some parts of the factory floor may not get relief at all. This is why this method works better in some facilities than it does in others.

Build for Temperature Control

While this solution might not work if you need immediate results, it's one of the smartest things you can do to control building temperature in the long run. If you're building a new facility, have the chance to remodel or can even just move equipment around, give this method a try.

Designing a plant with temperature control in mind can help prevent heat from becoming a problem in the first place. Avoid nooks and crannies or tightly packed areas unless they're absolutely necessary. Spreading out equipment that generates heat helps prevent pockets of hot air from forming around them.

Orienting windows for optimum airflow helps reduce heat as well. Place them on the south or north side of the building when possible, because more sunlight will enter through openings on the east and west sides in the summer.

The materials used for construction also impact how well a building can ventilate. Properly shading windows and using glass that lets in less heat can improve temperature control. Proper insulation and installing a reflective, light-colored roof can help as well.

Equipment, both large machinery and small appliances, emit heat, so investing in more efficient equipment can help cool a factory floor. Even light bulbs can increase a building's temperature. Only about 10 percent of the electricity in a standard incandescent light bulb is converted into light. The rest becomes heat. Fluorescent and LED light bulbs are much more efficient.

Manage Air Flow

In some situations, moving air around on the factory floor can be enough to keep the building sufficiently cool. Fans that sit on the floor, are mounted on walls or placed elsewhere inside the facility move air from place to place, which creates a cooling effect. While standard fans won't actually cool air down, the breeze they create can provide some relief to workers. So, if your main goal is the comfort of employees, fans may suffice.

High volume, low speed (HVLS) fans, which are larger than standard fans, can break up blocks of hot air and provide an even more substantial cooling effect. Some models of industrial HVLS fans are even equipped with smart technology and can schedule when to run and work together with other cooling equipment. If temperatures are not too excessive or your main goal is to provide relief to workers, consider using fans to lower factory floor temperatures.



Evaporative Coolers

Evaporative coolers, also called swamp or desert coolers, are an efficient means of cooling down an industrial facility but work better in certain climates than in others. As the name suggests, they use evaporation to cool air down by up to 20 degrees.

A fan inside of the device draws in air, which passes through a cooling pad. The cooling pad is kept wet by a pump and water tank inside the system. As the air makes its way through the pad, it's cooled by the evaporation of the water. That cooled air is then released into the building, lowering its overall temperature.



The downside to these units is that they work much better in drier climates. In areas where humidity is high, they're not effective as too much water is already in the air and will make the air more humid. Humidity should be below 60 percent for these types of coolers to work best.

In areas with low humidity, evaporative coolers may be the ideal solution because they add moisture to the air in addition to cooling it. They're also less expensive, use less energy and are more environmentally friendly than many other cooling options. You can also buy portable evaporative coolers, so that you can use them for spot cooling, reducing temperature in areas of the factory floor that get especially hot.

Worker Retention

Most plants don't have air conditioning. They are built on a budget. They leak air. They occupy huge volumes of space. Some might have some fans, but the truth is that these places get so hot that they open the doors to let the heat out. Even when it's 100 degrees outside. OHS codes usually requires employers to maintain a minimum temperature, not a maximum.

In a flourishing job market, and industrial workers have increasing choices of where to work. The hotter and unhealthier the factory floor, the more likely it is that workers will look to transfer out as soon as they can. Recruiting and training new staff is costly. Manufacturing has one of the highest costs to hire, estimated at \$5,100 by RecruiterBox. Deloitte says the US manufacturing sector could have a shortage of 2.1 million skilled jobs by 2030. Thus, worker retention is a bottom-line issue.

The issue is serious. It's not unheard of for workers to faint under these conditions. Between 1992 and 2017, heat stress injuries killed 815 US workers, according to OSHA. More often, however, workers are leaving jobs due to the heat. Data in some areas shows a correlation between rising outdoor temperatures and worker resignations.

The Alberta Government has a new format OHS eNews you can subscribe to with all kinds of good material at: <https://ohs-pubstore.labour.alberta.ca/>

News and Events

Industry Engineers Survey Regarding Authenticated Documents

I will be conducting a survey of Engineers that provide services to truss manufacturers regarding authenticating documents shortly. WWTA managers will be receiving an e-mail requesting contact information for either engineers that directly work for you or engineers that do contract work for your company.

The purpose is to gather information about their concerns about sealing documents for Part 9 buildings where there is typically no engineer of record.

Authenticating Documents

As reported previously after a meeting the end May Alberta Municipal Affairs was going to put out a bulletin that this would not be a requirement at this time. They have still not published this bulletin, but I have seen and commented on a draft of it. So hopefully it will be out soon.

The problem is that at the May meeting only the City of Edmonton and the City of Calgary were in attendance, so some of the other municipalities may still not be aware of this decision because they have not yet seen the bulleting from Alberta Municipal Affairs. If you are getting requests for sealed documents, please contact the Municipality and have them contact Alberta Municipal Affairs.

TPIC Technical Committee Meeting

May 2 & 3, 2024

Notes as recorded by the WWTA-AB representative David Klassen P.Eng. (Unofficial)

The information is for informational purposes only and should not be construed as professional advice or opinion. The writer has made reasonable efforts to ensure that the information provided is accurate at the time of writing. The content is provided "as is" and the writer makes no representations, warranties (express or implied), guarantees or assurances of any kind as to the accuracy, currency or completeness of the information provided. Use of the content is at your own risk.

1. Codes and Standards & Industry Reports
 - a. CSA S347 (TRUSS PLATES) is up for 2025 recertification, no changes were noted.
 - b. CSA S349 (QC) is up for 2025 recertification, no changes were noted.
 - c. CSA O86 (WOOD DESIGN) will be published in June, all proposals were accepted. Changes for 2025 that affect our industry include:
 - i. Built Up Post allowance for gun nails but at reduced capacity (0.45 vs 0.60).
 - ii. Referenced S349, so O86 requires truss QC program.
 - iii. Deflection creep factor was added for lumber.
 - iv. Lateral unbraced member factor (K_L) was reduced for dimensional lumber.
 - d. NBCC 2025, 2030
 - i. No changes to report in NBCC 2025. Recruiting volunteers to participate in 2030 code.
 - e. CWTA
 - i. Working on accreditation process for national QC program.
2. Regional Association Reports
 - a. Primary focus is implementing QC programs.
3. Ongoing task group work, notable highlights are:
 - a. Splicing
 - i. Redefined blocked splices in TPIC 2024 to require 2 or more webs at splice location.

- ii. Our current formula treats joint as rigid OR pinned. Semi rigid models vary amongst software packages. We plan to standardize for TPIC2029.
- b. Web Bracing
 - i. TPIC intends to expand bracing options for TPIC 2029.
 - ii. Discussed a minimum web length of 3' for which CLB's can be used.
 - iii. Considering built-up column formula as an alternative method of bracing (scab).
- c. Vibration
 - i. Will continue monitoring updates to CCMC in CSAO86-Annex A. Floor Truss was omitted as trusses do not have a rectangular cross-section and stiffness is not straightforward.
 - ii. Task group to provide background or explanation of 22d limit for attic frame.
- d. Website
 - i. Reviewed Technical Bulletins for compliance with NBCC 2025 / TPIC 2024.
 - ii. Relabeled plate values used for 1995 Farm Building Code to "Legacy CSA S347-1999 Plate Design Values".
- e. Plating Sliders to Eliminate CLB
 - i. Will provide ability for plates to transfer out of plane forces from slider to roof diaphragm. Group reviewed, adjusted the diagram and voted to adopt for TPIC 2024.
 - ii. Plan to make retroactive for previous building codes including 1995 Farm.
- f. Compression Perpendicular to Wood Grain
 - i. Design check is currently only required at bearing locations. The same forces occur at "K-webs", group agreed that a design check is required. We plan to add additional diagrams and notes for TPIC 2029.
- g. Plate in Breeze
 - i. Reviewed testing from the TPI provided by our US representative.
 - ii. A plate supplier is planning to run finite element analysis and will share with group.
 - iii. The two methodologies will be reviewed and considered for TPIC 2029.
- h. Design Roles & Responsibilities
 - i. Compiling guidelines from provincial engineering associations and TPI to create definitions for the TPIC manual which aligns with all associations.
 - ii. The group discussed in earnest a draft document of definitions of software operators, truss designers, sealing engineers, building designers and what constitutes direct supervision. We were unable to reach consensus for TPIC 2024 due to differences in provincial engineering association obligations. We have deferred to an interim update.
- i. Leg down extensions
 - i. Reformatted a Mitek document into a TPIC technical bulletin as the detail is becoming more common. To be distributed to technical committee for review and vote to adopt.

- j. Intermediate Bearing Definition in Relation to Part 9 Clear Span Limits
 - i. Proposed change to wording of 5.2.1.1 (1) to require supports to occur at panel points if being used to reduce the clear span below 12.2m: *“Roof trusses meeting the housing and small building requirements of Part 9 of the NBC 2025, with clear spans between panel-point supports less than or equal to 12.2 m shall be designed...”*.
 - ii. All were in favor and has been adopted in TPIC2024.
- k. NFBCC 1995 ground snow loads
 - i. The TPIC position is that snow loads posted in the 1995 NBCC should be used for the 1995 Farm Building Code. A position statement to be circulated for a final reading and posting on TPIC website as a clarification letter.
- l. End Grain Bearing Block Splitting
 - i. Plates ending at center of vertical blocks tends to split the wood when 24" or shorter.
 - ii. Recommend plate coverage of 75% the block width at both ends of the block.
 - iii. Proposal to be completed by fall meeting for review and adoption in TPIC 2029.

m. Load Distribution of Multi-Ply Trusses

- i. Studies have shown that load is not evenly distributed across multi ply trusses. TPI proposed design of individual plies be able to withstand a higher share of load as the number of plies increase, see table.
- ii. Discussed implications for TPIC and decided further consideration is required before voting to adopt.

Plies	% of total load / ply	
	2x4	4x2
2	50%	55%
3	37%	41%
4	29%	
5	28%	
6	25%	

- 4. New Business
 - a. WWTA-AB asked what constitutes a minor or major defect in the QC process
 - i. TPIC would be willing to comment on proposed definitions provided by CWTA.
 - b. WWTA-AB asked if shimming at gaps at joints as suggested by ANSI/TPI would be allowable?
 - i. TPIC will reach out to SBCA to get more information so we can discuss how it could be incorporated into our practices.
- 5. Post meeting update
 - a. TPIC 2024 was published in June 2024 and submitted to NBCC2025 for inclusion.
- 6. Comments to the membership from their provincial TPIC Technical committee representative
 - a. In discussion it was noted that Barriertek coated lumber reduces plate grip values by 8%. It is important to inform your software supplier when designing trusses with that product.

- b. I'm grateful to members of TPIC that have been generous in their time providing expertise in support of the WWTA-AB at meetings with AMA and APEGA regarding the sealing part 9 designs.

WWTA Online Training

IMPORTANT!

If you have students active in the online training, it is important that you make them inactive after they have completed their training. If they want to go back and do more training or refresh, they can always be made active again.

If they remain active in the system it means that you may be charged for their seat, as we get charged from the provider for every active seat.

Because of this you may find that some students are made inactive by the WWTA to decrease the number of active seats.

With the provincial building codes now coming into force and referencing TPIC 2019 there have been several inquiries and sign-ups about our online training courses from outside of Alberta now that truss plants are starting to implement their QMS systems and determining that training of their workers is crucial to being in compliance.

If you have not yet taken a look at the WWTA online training program I would encourage you to, as no doubt you will be hiring new workers in the near future and it is a good method to get them productive earlier and safer. If you want an overview of the program go to the WWTA website at: <http://www.wwta.ab.ca/truss-training-online.html>

Did You Know?

Good judgement comes from experience, and often experience comes from bad judgement.