

THE IMPORTANCE OF SHORE A HARDNESS

When selecting an adhesive or sealant, many professionals focus on bonding strength, curing time, or weather resistance. Yet one technical property often plays a decisive role in overall performance:

Shore A Hardness

Understanding Shore A Hardness helps installers, engineers, and façade professionals choose the right product for the right application — improving durability, flexibility, and long-term reliability.

At TWEHA®, we consider Shore A Hardness a key factor in developing high-performance adhesive systems for demanding construction applications.

What Does Shore Hardness Mean?



Shore Hardness is a measurement used to determine how hard a material is or how resistant it is to permanent indentation. The measurement is performed by pressing a standardized instrument into the material surface with a specified force. The depth of the indentation determines the hardness value.

The measuring device itself is called a Durometer

The Shore Hardness system is named after its inventor, Albert Shore.

Different Shore Hardness Scales

There are several Shore Hardness scales designed for different material types such as:

- Rubbers;
- Polymers;
- Elastomers;
- Semi-rigid plastics.

In total, there are approximately 12 Shore scales, each producing a value between 0 to 100

In general:

- Lower values indicate softer and more flexible materials;
- Higher values indicate harder and firmer materials.

Shore A and Shore D: The Most Common Scales

For adhesive and rubber applications, two scales are most used:

- **Shore A Scale**

Used for softer and flexible materials.

- **Shore D Scale**

Used for harder and more rigid materials.

In façade bonding systems, Shore A is by far the most relevant measurement.

Understanding Shore A Hardness

The Shore A scale measures the hardness of flexible rubbers and elastomeric materials.

These materials can vary from:

- Extremely soft and gel-like;
- Flexible and elastic;
- Semi-rigid with limited flexibility;
- Hard materials with almost no elasticity.

For example:

- Shore A0 = extremely soft;
- Higher Shore A values = progressively firmer materials.

Why Shore A Hardness Matters in Bonded Cladding

In bonded façade and ventilated cladding systems, the adhesive connection must achieve a careful balance between:

- Durability;
- Elasticity;
- Strength;
- Stress distribution.

The adhesive joint must continuously absorb and distribute forces caused by:

- Panel weight;
- Wind loads;
- Thermal expansion and contraction;
- Building movement;
- Vibrations.

An adhesive that is too soft may lack sufficient structural stability.

An adhesive that is too hard may not adequately absorb movement stresses.

That is why selecting the correct Shore A Hardness is essential for long-term façade performance.

The Ideal Balance for Façade Bonding

Experience within the façade industry shows that adhesives with a Shore A Hardness of approximately 50–55

provide an excellent balance between:

- Elastic movement absorption;
- Permanent bonding strength;
- Tension distribution;
- Long-term durability.

This makes them highly suitable for bonded façade panel applications.

Lower Shore A: Ideal for Sealing Applications

Products with lower Shore A values are generally:

- More elastic;
- More flexible;
- Better at recovering their original shape.

These properties make them ideal for:

- Expansion joints;
- Flexible sealing;
- Weatherproofing applications.

Higher Shore A: Stronger Permanent Bonds

Products with higher Shore A values become firmer after curing and offer:

- Greater structural stability;
- Stronger permanent adhesion;
- Better mechanical support.

This makes them highly suitable for:

- Bonded façade systems;
- Ventilated cladding;
- Structural bonding applications.

Faster Curing with Higher Shore A Products

In general, products with higher Shore A Hardness also tend to:

- Forming skin faster;
- Cure more rapidly;
- Reach functional strength sooner.

However, processing time remains critical for installers.

The TWEHA® Advantage

Thanks to years of technical expertise and adhesive development experience, TWEHA® has developed advanced adhesive systems that combine:

- High bonding strength;
- Excellent elasticity;
- Controlled curing behavior;
- Practical processing times.

Our adhesive technology makes it possible to achieve a Shore A Hardness of 60 while still maintaining an excellent and workable:

- **Skin Formation Time of Approximately 10 Minutes**

This gives installers the ideal combination of:

- Reliable structural bonding;
- Sufficient installation time;
- Long-term façade performance.
- **Performance That Makes a Difference**

In modern façade construction, adhesive performance is about more than simple bonding. The correct Shore A Hardness determines:

- Flexibility;
- Safety;
- Durability;
- Stress absorption;
- Long-term reliability.

Choosing the right adhesive means choosing the correct balance between strength and elasticity — exactly what professional bonded façade systems require

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