



HANEX DISTRIBUTOR CONFIDENTIAL

HANWHA L&C  
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**Effective Immediately regarding Special Brionne Fabrication Instructions:  
For Authorized Hanex® Distributors.**

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The Technical Notice Bulletin explains the special instructions for routing and thermoforming Brionne as well as other fabrication guidelines. Please remember to follow all suggested recommendations to avoid failure of product.

**SECTION 1      IMPORTANT INFORMATION FOR BRIONNE™ SOLID SURFACE**

**1. Router Information**

Subject	Suggested Recommendation	Remarks
Router RPM	12,000~22,000	Going beyond Suggested Recommendation can result in chips popping or cracks.
Router Speed	5 FPM (feet per minute) or 1.5 MFM (meter per minute)	Going beyond Suggested Recommendation can result in chips popping or cracks.



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**2. Thermoforming Information**

Subject	Suggested Recommendation	Remarks
Temperature & Time	347~368 °F 20~25 min	There is no difference between Hanex and Brionne
Minimum of Half Radius Requirement	12 inches or 300mm Thermoforming is not recommended, but if needed please follow minimum radius requirements.	a. If minimum requirement is not followed, it will result in popped chips or cracks. b. Thermoforming is not recommended, but if needed please follow the suggested recommendation in order to avoid popping chips or cracks.

**SECTION 2 IMPORTANT INFORMATION FOR THERMOFORMING**

**\* Thermoforming**

**1. General Information**

Unlike other materials, Hanex and Brionne can be thermoformed to create any desired shape to fit your needs. These thermoforming parameters are basic guidelines for fabricators to thermoform Hanex and Brionne. The parameters listed below are recommendations, which are a direct result of actual foarming of Hanex and Brionne.

**2. Material Preparation**

- a. Remove the protective film from the material.
- b. Cut all the pieces accurately to its required dimensions.
  - It is important to consider the shrinking and expanding during the thermoforming process.
- c. Sand all the pieces to matte finish.
  - All surfaces, including the edges should be sanded.
  - This is to prevent rips and cracks during thermoforming process.



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### 3. Mold Preparation

Unless the thermoforming material is an inlay piece, where it can be formed free hand, having proper and accurate mold is highly recommended. The molds can be made from M.D.F materials, due to its property. It is important to make both male and female sections to hold the heated pieces in the desired shape.

- a. Using high quality plywood or M.D.F boards, cut and shape the pieces to desired dimensions.
- b. The mold surface must be sanded smooth and free of any defect, which can be transferred to the material.
- c. Depending on the shape, the molds should be properly supported and strong enough to endure pressure and heat.
- d. Solid wood or metal molds are not recommended, because they can insulate the heat and slow down the process.

### 4. Oven Preparation

Having the right oven is essential for properly thermoforming Hanex and Brionne. As a general rule, the oven must be able to heat the material uniformly. There are some fabricators who use torch with open flame to heat the materials. Using an open flame to heat the material is NOT permitted at any time.

- a. The oven should be calibrated. Please consult with the manufacturer for proper calibration.
- b. Preheat the oven to desired temperature.
- c. The oven should be designed for Solid Surface sheets and be able to heat uniformly.
- d. The materials should be fully enclosed in the oven for proper heat distribution.
- e. Depending on the oven, radius, thickness, and other factors, the time and temperature may vary.

### 5. Thermoforming

Be aware that heating in an oven may darken the color of light colored Hanex and Brionne. Especially Brionne products are difficult to bend and are not recommended for thermoforming.

- a. Place the material in the oven at desired temperature and time.
- b. Quickly place the heated material in the mold and clamp it securely.
- c. Using the molds, slowly form the material to desired shape.
- d. Proper cool down is important. Take enough time to cool the material down properly.
- e. At the end of a cool down period, remove the material from the mold and finish the cool down at room temperature.



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### Material Heat-Up Times

	Thickness	Oven Temperature	Heat-Up Time
Hanex	6mm	347~368 °F	10~15 Minutes
	12mm	347~368 °F	20~25 Minutes
Brionne	12mm	347~368 °F	20~25 Minutes

- Temperatures given above are approximate and represent a starting point to establish the conditions you need for your project. If material is too cool or too hot, it may crack or tear while bending.

### Minimum Bending Radius

	Color	Thickness	Minimum Internal Radius
Hanex	Solo, Duo	6mm	25mm
		12mm	50mm
	Trio	12mm	100mm
	Galleria	12mm	150mm
Brionne		12mm	300mm

- These minimums reflect radiuses in which there would be minimum to no breakage.

### 6. Fabrication: Finishing/Seaming

Finishing formed sheetstock is no different from standard finishing. However, it is important that any seaming/joining be done after forming. The heat to which the material is subjected will weaken the seamed areas of the pieces, which may result in seam failures.



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SECTION 3	IMPORTANT INFORMATION FOR SANDING AND POLISHING
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## \* Sanding and Polishing

### 1. Preparation

- a. Before any sanding or polishing of Hanex and Brionne, having the right tools and sanding pads are important to get the proper finish you desire. There are many types of sanders that you can use in the market. For the most part, most orbital sanders can be used on Hanex and Brionne, however, BELT SANDERS MUST NOT BE USED at any time. Belt sanders can create too much heat which can cause damage and it can also create nicks that can be a stress risers to the counter top. The orbital sanders should be set at the right speed for optimal use. Please check with the tool manufactures for details.
- b. In addition to the sanders, having the right sandpaper is another task. Because there are so many different sandpapers in the market, it is recommended that the fabricators check with the sandpaper manufactures for specifications and proper use.

#### Different types of Sandpapers:

Types	Spec.
Standard Grits	Average size of the grits in entire sheets (Dry)
Micron Paper or Similar	All grits the same size (Dry)
Abralon	Can be used Wet or Dry
Trizact	Color coded and must be used Wet

#### Sandpaper Grade Comparison

Micron Grade	Industrial U.S. Mesh	FEPA or P-Grade	Japanese J15 grade	Emery
100	150			
80	180			
60	220	P240	240	
	240		270	
40	280		320	



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	320	P360	360	
	360	P500	400	1/0
30	400		500	2/0
	500	P1000	600	3/0
15	600		1000	
	800		1200	
12		P1200		
9	1200		2000	4/0
5			2500	
3			4000	
2			6000	
1			8000	
0.3				

**Different types of Finish**

Types	Remarks
Matte	Easy to maintain
Satin (Semi-Gloss)	Fairly easy to maintain
Hi-Gloss	High maintenance, Recommended for Brionne light color
Mirror Finish	High maintenance, Recommended for Brionne dark color

**2. General Sanding Process**

- a. Move the sander in a back and forth direction. NOT CIRCULAR
  - b. Overlap each pass by 50%.
  - c. Sand at a slow and even pace, appoximately 2.54mm per second.
  - d. Keep micron paper clean from sanding dust. This is easily done by putting the sanding pad on a piece of carpet while running and hold it down for a few seconds (check paper frequently).
  - e. When undertaking the sanding operation, it is important to be aware that, after using each grit, the top should be thoroughly cleaned to avoid picking up particles of the previous coarser grit which will cause scratching.
- \* Each sheet of micron paper will sand 1 sqm of Hanex and Brionne.

**3. Matte Finish**

The matte finish is easily maintained and is usually the most suitable for high use areas.

- a. Light colors

After removing the linear sanding lines with 60 micron paper, place a Scotch-Brite® pad



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(#7447 Red) under the sanding pad to even out the finish.

**b. Dark Colors**

Darker colors will require sanding with 60 and 30 micron before using the Scotch-Brite® pad (#7447 Red). For best results, add water and a small amount of liquid detergent with Scotch-Brite® pad.

**4. Satin Finish**

After sanding with 60 micron paper, repeat sanding process with 30 micron paper. Place Scotch-Brite® pad (#7448 light grey) under sanding pad. For stain finish, use Scotch-Brite® #7448 and soapy water. Homeowners may maintain this finish using a white Scotch-Brite® and Soft-Scrub®.

**5. Hi-Gloss finish**

The polisher used should have 8~10 AMP and the capacity to maintain 2500 R.P.M. Use a 3M Super Buff adapter to prevent the arbor of the polisher from damaging the surface.

**a. Hanex**

After sanding with 60 micron paper, repeat sanding process with 30 and 15 micron paper.

**b. Brionne**

After sanding with 60 and 30 micron paper, repeat sanding process with 15 and 12 micron paper.

**\* Recommended for Brionne Light colors to have depth and transparency of clear chips.**

**6. Mirror Finish**

Follow the steps needed to get Hi-Gloss finish.

**a. Step One**

The first step of the polishing process uses **3M's Marine Paste Compound (White) #06039** with **3M's Super Duty 2+2 pad (White)**. The Marine Paste Compound will remove Hi-Gloss finish sanding swirls. It may be necessary to repeat this step to remove all Hi-Gloss finish sanding swirls. Apply enough pressure to deflect the pad.

**b. Step Two**

Remove any compound residue by reversing the white pad. **DO NOT** mix the compounds on the same pad.

Repeat polishing the surface with **3M's Finishing Material #81235 (quartz)** with **3M's super**



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**Buff Polishing Pad (Yellow).** This will remove the swirl marks left by Step One and will produce a high gloss. Step Two takes about half the time as Step One.

\* Keep the polisher moving to prevent overheating, and assure that the buffing pad does not dry out.

\* **Recommended for Brionne Dark colors to have depth and transparency of clear chips.**

### 7. Finishing Steps

	Matte	Satin	Hi-Gloss	Mirror Finish
Hanex	1. 60 Micron	1. 60 Micron	1. 60 Micron	1. 60 Micron
	2. 30 Micron (only for dark colors)	2. 30 Micron	2. 30 Micron	2. 30 Micron
	3. Scotch Brite 7447 with soap and water	3. Scotch Brite 7448 with soap and water	3. 15 Micron	3. 15 Micron
				4. Marine paste compound with white pad
				5. Finesse-it with yellow pad
Brionne		1. 60 Micron	1. 60 Micron	1. 60 Micron
		2. 30 Micron	2. 30 Micron	2. 30 Micron
		3. Scotch Brite 7448 with soap and water	3. 15 Micron	3. 15~12 Micron
			4. 12 Micron (for light colors)	4. Marine paste compound with white pad (for dark colors)
				5. Finesse-it with yellow pad (for dark colors)