

## SUCCESS STORY 85

### AUTOMOTIVE CURING ADHESIVES AND SEALANTS



**Q**

**How can major automotive manufacturers maximize the protection of passengers, through optimized curing of structural adhesives, sealants and mastics?**

**A**

#### Situation and background

During the paint cure process, a variety of complimentary materials need to be either heat treated or cured. Many of these materials are essential to the safety of the car, so they are as important as the paint cure process and therefore, need to be profiled. High temperature structural adhesives are used to give structural strength to areas of the car that need it for side impact resistance and to achieve the safety specifications required. Adhesives are used, since there is no space for welding on B pillar flanges. Cure of sealants, mastic and sound deadening materials provide waterproofing/reduced road noise and prevent toxic engine gases from entering the car's interior. Over curing can also produce by-products that can affect the quality of other paint processes.

#### The winning solution

- Using a Datapaq® OvenTracker® XL2 system, the customer was able to ensure correct heat treating of adhesives, as well as curing of sealants and mastics.
- A standard Oven Tracker XL2 system (6 or 8 channel), with TB0090 thermal barrier was used.

Alternative solutions (application dependent) would include:

- OvenTracker XL2 with dual interface block (16 Channel), TB0083 thermal barrier
- Oven Tracker XL2 with long duration barrier TB0081 (single pass profile for profiling all ovens in one run)

#### Savings made

- With rework not an option in this industry, scrap costs resulting from the over curing of sealants were reduced.
- Improved passenger safety and reduced manufacturer liability issues from the correct curing of the adhesive.
- Production throughput was maximized.

#### KEY FACTS

##### Customer's End Product

Curing adhesives, mastics and sealants

##### Max Temperature Reached

Adhesives: 180°C/356°F  
Sealants: 150°C/302 °F

##### Duration of Process (Cure)

Adhesives: 30 mins  
Sealants: 20 mins

#### PRODUCT AND BENEFITS



**Datapaq Oven Tracker XL2**  
**TB0090 thermal barrier**  
**MicroMag magnetic**  
**thermocouples**  
**Insight™ Professional software**

- Product temperature uniformity can be measured easily and thus optimized