3M™ Scotch-Weld™ Structural Adhesive Solutions
for Design, Process and Performance
3M™ Scotch-Weld™ Structural Adhesives

Adhesive Science for Bonding Solutions

**High Strength & Metal Bonding**
- **DP8410NS GREEN**
  - MMA acrylic adhesive
  - High impact resistance
  - Minimal surface preparation
  - Non-sag
  - 10 minute open time

- **DP420NS BLACK**
  - Excellent environmental resistance
  - Toughened epoxy for high impact strength
  - Excellent fatigue performance
  - 20 minute open time

**Plastic & Metal Bonding**
- **DP8010 BLUE**
  - Acrylic adhesive
  - Structural bonds to low surface energy plastics
  - Medium viscosity
  - 10 minute open time

- **PR100**
  - Cyanoacrylate adhesive
  - Bonds metals to plastics including EPDM and nylon*
  - Low viscosity
*With appropriate primers.

- **DP125 GRAY**
  - Flexible epoxy
  - Bonds to most substrates, including many plastics
  - High strength and high peel
  - 25 minute open time

**Speed**
- **DP100 PLUS CLEAR**
  - Epoxy adhesive
  - Colorless bonds
  - Flexible
  - High strength
  - 5 minute open time

- **TS230**
  - Moisture curing, one component, hot melt urethane
  - Tough, flexible bond lines
  - Rapid handling strength
  - Sprayable and extrudable

**Instant Strength for Small Parts**
- **DP8805NS GREEN**
  - Low odor acrylic adhesive
  - Fast rate of strength build
  - Bonds to oily and painted metals and many plastics
  - 5 minute open time

- **DP125 GRAY**
  - Flexible epoxy
  - Bonds to most substrates, including many plastics
  - High strength and high peel
  - 25 minute open time
**Design Solutions**

**Improve Aesthetics**
- Replace rivets, welds and screws
- Invisible joints
- Create smoother bond lines

**Lightweighting**
- Eliminate the weight of mechanical fasteners
- Use thinner, lighter materials
- Build with composites and hard-to-bond plastics

**Freedom to Design**
- Adhere difficult-to-bond materials, such as HDPE/PP
- Bond multiple materials, such as metal to plastic
- Smaller joints take up less space

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Producing a seamless appearance

Making products lighter and more efficient

Extending your design latitude

Recommended 3M products:
- DP8010 & DP420NS

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Recommended 3M products:
- DP100 PLUS & DP420NS
Cost-Efficient

- Reduce labor costs
- Use thinner materials to decrease costs
- Eliminate post-finishing

Enhance Productivity

- Variety of cure rates to match your process needs
- Build faster with minimal surface prep
- Withstands high process temperatures

Accurate and Easy

- Control dispensing with 3M™ EPX™ exact proportioning and mixing applicators
- Match your processing needs with a range of viscosities and flow rates
- Handle large applications with bulk meter-mix equipment

Saving both time and money

Accelerating output and efficiencies

Eliminating hand mixing

Adhesive vs Bolt

1" x 24" Application
97% Weight Reduction
22% Cost Reduction

1" X 24" BEAD OF ADHESIVE | STANDARD BOLTS 6" APART
---|---
Weighs 4 grams and costs $0.97 | Weighs 125 grams and costs $1.27 (5 bolts with nuts)

10% = 6-7% weight reduction fuel savings

weld cost $3.24 per foot adhesive cost $2.27 per foot

Recommended 3M products:
DP8410NS & DP420NS BLACK

Structural Acrylic Adhesives —
with various open times and exceptionally fast cure rates allow you to move your parts faster.

Recommended 3M products:
TS230 & DP8805NS
Performance Optimization

Stronger Bonds
- Eliminate stress concentrations
- Toughened adhesives absorb shock for durable bonds
- Bond and seal simultaneously

Flexible Bonds
- Absorb vibration and CTE mismatch*
- Reduce NVH (noise vibration harshness)
- Resist material separation along edges and corners with high peel strength

Quality & Durability
- Improve vibration and fatigue resistance
- Environmental and chemical resistance
- Eliminate galvanic corrosion

Providing solutions for high-strength applications
Enhancing durability in tough environments
Bonds that last under harsh conditions

Recommended 3M products:
- DP420NS & DP8410NS
- DP125 & DP100PLUS
- DP8410NS & DP8010 BLUE

*Coefficient of thermal expansion.
## 3M™ Scotch-Weld™ Structural Adhesive "Lead" Products

<table>
<thead>
<tr>
<th>Product (Color)</th>
<th>Key Features</th>
<th>Mix Ratio Volumes (BA:EA)</th>
<th>Approximate Viscosity (cP)</th>
<th>Open Time (Orifice Life)</th>
<th>Set Time</th>
<th>Adhesion (Temporary) Pounds/sq in.</th>
<th>Tensile Strength Elongation (%)</th>
<th>Size</th>
<th>Supplier Code</th>
<th>Stock #</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP900 Plus 100 Plus (Clear)</td>
<td>Flexible bonds Colorless</td>
<td>1:1</td>
<td>1,500</td>
<td>4 minutes</td>
<td>N/A</td>
<td>20 minutes</td>
<td>55</td>
<td>3,000</td>
<td>3,500</td>
<td>200</td>
</tr>
<tr>
<td>DP125 125 (Gray)</td>
<td>High performance Flexible bonds</td>
<td>1:1</td>
<td>52,500</td>
<td>25 minutes</td>
<td>N/A</td>
<td>2.5 hours</td>
<td>85</td>
<td>3,400</td>
<td>4,300</td>
<td>400</td>
</tr>
<tr>
<td>DP420NS 420NS (Black)</td>
<td>Tough durable bonds Non-sag</td>
<td>2:1</td>
<td>180,000</td>
<td>20 minutes</td>
<td>N/A</td>
<td>2 hours</td>
<td>60</td>
<td>4,500</td>
<td>4,500</td>
<td>1,250</td>
</tr>
<tr>
<td>DP8010 8010 Blue</td>
<td>Bonds polyolefin and low surface energy materials</td>
<td>10:1</td>
<td>20,000</td>
<td>10 minutes</td>
<td>N/A</td>
<td>1 hour</td>
<td>2,700</td>
<td>2,700</td>
<td>500</td>
<td>-67°F - 250°F</td>
</tr>
<tr>
<td>DP880NS/881NS (Green)</td>
<td>Low odor Fast rate of strength build</td>
<td>10:1</td>
<td>80,000</td>
<td>5 minutes</td>
<td>N/A</td>
<td>10 minutes</td>
<td>30</td>
<td>3,600</td>
<td>900</td>
<td>-20°F - 280°F</td>
</tr>
<tr>
<td>DP841NS/841NS (Green)</td>
<td>High impact Adhesion to most plastics</td>
<td>10:1</td>
<td>70,000</td>
<td>10 minutes</td>
<td>N/A</td>
<td>25 minutes</td>
<td>50</td>
<td>4,100</td>
<td>800</td>
<td>-40°F - 280°F</td>
</tr>
<tr>
<td>PR100 100 (Clear)</td>
<td>General purpose, low viscosity plastic and rubber bonder</td>
<td>N/A</td>
<td>100</td>
<td>2-30 seconds</td>
<td>N/A</td>
<td>N/A</td>
<td>-65°F - 180°F (-54 - 82°C)</td>
<td>142 gram bottle 1 lb. bottle 2 kilo bottle</td>
<td>00-05115-25243-3</td>
<td>62-664-0360-6</td>
</tr>
<tr>
<td>TS230 230 (Off White)</td>
<td>Sprayable/extrudable with long set time. Bonds a variety of plastics including polyethylene, aluminum, glass and wood.</td>
<td>N/A</td>
<td>9,000</td>
<td>4 minutes</td>
<td>150 seconds</td>
<td>45</td>
<td>3,300 psi</td>
<td>700%</td>
<td>1/10 of gal. cart. 2 lb. box (4/4 lbs) 5 gal. pail 55 gal. drum</td>
<td>00-05115-25915-8</td>
</tr>
</tbody>
</table>

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