

**NORTHCOTE POTTERY SUPPLIES**  
**TECHNICAL TIPS AND PRODUCT INFORMATION #15**  
**POTTERY FAULTS & REMEDIES 1**

FAULT	APPEARANCE	CAUSE	SUGGESTED REMEDIES
<b>BLOATING</b>	Bubble formation within the clay during firing.	<ol style="list-style-type: none"> <li>1. Expansion of clay body produced by pressure build up of gases trapped in a partially melted body by:               <ol style="list-style-type: none"> <li>a) Overfiring or irregular firing.</li> <li>b) Carbon trapped within vitreous body.</li> <li>c) Clay body too high in fluxes (melting materials).</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>a) Reduce firing temperature.</li> <li>b) Fire more slowly.</li> <li>c) Add grog to open up clay body.</li> </ol>
<b>BLOW OUT / SPIT OUT</b>	Craters in bisqued clay.	<ol style="list-style-type: none"> <li>1. Presence of impurities in clay.</li> <li>2. Foreign particles of plaster from mould surface.</li> </ol>	<ol style="list-style-type: none"> <li>1. Avoid possible contamination of clay during making.</li> <li>2. Remove any plaster plucked away from mould surface before firing.</li> </ol>
<b>CRACKING</b>	Cracks in bisqued clay.	<ol style="list-style-type: none"> <li>1. Rapid or uneven drying of clay pieces prior to firing.</li> <li>2. Firing body too fast up to 300°C.</li> <li>3. Overworking of clay during making/drying.</li> </ol>	<ol style="list-style-type: none"> <li>1. Dry more slowly and carefully</li> <li>2. Slow down initial firing rate (take 4 - 6 hours to 300°C).</li> <li>3. Reduce handling time during making.</li> </ol>
<b>CRAWLING/ORANGE PEELING EFFECT</b>	Bare, unglazed patches on surface of pottery accompanied by glaze puckered into small beads.	<ol style="list-style-type: none"> <li>1. Excessive handling of bisque ware before glazing.</li> <li>2. Oil, grease, dust etc. on bisque ware before glazing.</li> <li>3. Cracking of dipped glaze layer during drying and before firing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Minimise handling of bisque before glazing.</li> <li>2. Keep bisque ware clean. Sponge before glazing.</li> <li>3. Reduce glaze application thickness by dipping more quickly or thinning dipping glaze in the dipping bucket.</li> </ol>
<b>CRAZING</b>	Fine cracks in glaze surface (but not through the clay body).	<ol style="list-style-type: none"> <li>1. Mis-match of glaze and body thermal expansions.</li> <li>2. Glaze applied too thickly.</li> <li>3. Moisture expansion of pottery after firing to earthenware temperature.</li> <li>4. Underfiring of body or glaze.</li> <li>5. Firing cooled too quickly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire clay to higher temperature. Or soak clay longer at peak temperature.</li> <li>2. Reduce glaze thickness.</li> <li>3. Glaze earthenware pottery all over and fire on stilts to eliminate unglazed areas which absorb moisture.</li> <li>4. Reduce porosity of clay body by bisque firing to 1100°C, and always fire the glaze to the recommended temperature.</li> <li>5. Do not open the kiln door after a firing until the kiln has cooled to 100°C.</li> </ol>
<b>DUNTING (STRUCTURAL CRACKING)</b>	Splitting of ceramic ware due to silica inversion. (When glaze has run into crack, dunting has occurred during <u>heating</u> cycle. Crack with sharp edge, dunting has occurred during <u>cooling</u> cycle.)	<ol style="list-style-type: none"> <li>1. Too rapid heating and/or cooling of clay body especially around 575°C and 225°C (silica inversion temperatures).</li> <li>2. Large variations in wall thickness of article giving rise to thermal variance.</li> <li>3. Overfiring of clay body.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire and cool the body more slowly through temperature ranges at which silica inversions take place.</li> <li>2. Give careful consideration in design of shapes.</li> <li>3. Reduce firing temperature of clay body.</li> </ol>
<b>GLAZE PEELING / SHIVERING</b>	Glaze lifting away from body. (Occurs mainly on edges of pots such as cup rims and handles).	<ol style="list-style-type: none"> <li>1. Glaze under excessive compression.</li> <li>2. Migration of soluble salts to surface of clay body in drying or firing giving rise to poor adhesion of glaze.</li> <li>3. Excess cleaning (sponging) of clay to expose excess silica particles.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce firing temperature and/or soaking period.</li> <li>2. Sand off soluble salts before glazing.</li> <li>3. Reduce sponging in cleanup.</li> </ol>