

**INTRODUCING
KODAK T-MAT Films.**



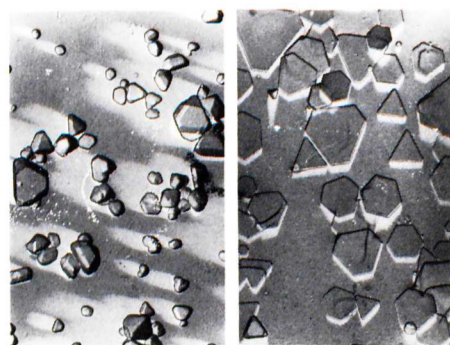
The dawn of a new generation of high-quality radiographic films

KODAK 'T-Mat' Films

- Extremely high-quality
- Significantly better resolution
- Significantly improved processing latitude

KODAK 'T-Mat' Films are the result of a massive research investment in conventional radiography. They bring the latest developments in emulsion technology to radiographic imaging. The result is a range of films of the very highest quality which produce sharper images, and with a choice of contrasts it is possible to obtain more useful detail than ever before. The result? More information as an aid to more accurate diagnosis, more quickly.

What is a 'T-Grain' emulsion?

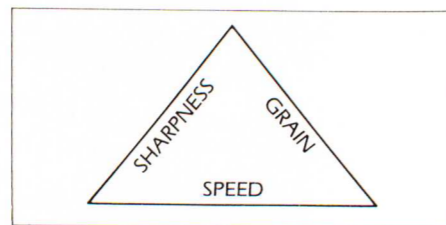


REGULAR GRAINS T-GRAINS

Until now, all silver halide grains have been pebble-shaped. But Kodak scientists have developed a new kind of grain, which is flat — or tabular. They also discovered how to orient the grains so that the flat surfaces face the image source. The result is a crystal with a much larger surface area, and much greater light-gathering ability, but without the increased grain that goes with it.

Expanding the speed-grain-sharpness triangle

Improving any one aspect of a film's performance is relatively simple. The problem has always been that trade-offs were inevitable. If the speed of the film was increased, there was a corresponding increase in grain or decrease in resolution, or both. This relationship is often shown as a triangle, which was



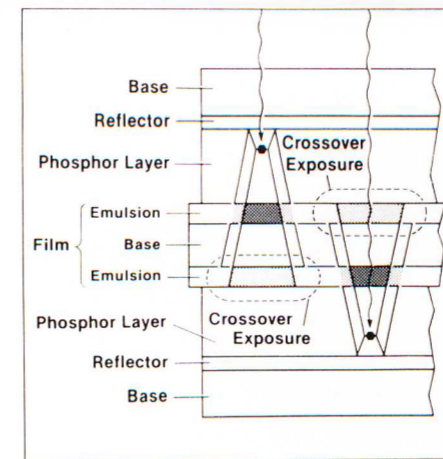
called "iron bound" with good reason. The technology used in 'T-Grain' Emulsions has changed all that, actually improving resolution without paying a penalty in terms of the other two.

How sharpness was improved

The first benefits of 'T-Grain' Emulsion appeared in the ultra-fast KODACOLOR VR 1000 Film for amateur photography. Within radiography it has been exploited in a different way, to produce a dramatic improvement in sharpness without paying a penalty in terms of speed or graininess. Although graininess has never been a limiting factor within medical radiography, it is important to minimize all factors affecting image quality.

To understand how the image quality has been improved so dramatically, we must first look at the causes of unsharpness in radiographs. Many of these are geometric and therefore the film cannot play any part in improving them, but other areas can be improved. For example, patient movement can be minimized by a sufficiently short exposure — 'T-Grain' Emulsion has that speed. Another factor is cross-over or "punch-through". This is the degradation of the image by light passing from one screen, through the emulsion and the base, and then being recorded on the opposite emulsion. Because this light is diffuse, it spreads as it passes through the base, producing a larger, less clearly defined image in the opposite emulsion.

It was realized that because the tabular grains present a wider surface to the light source, they would absorb more of the incident light than conventional grains. This effect was increased by the addition of the green sensitizing dyes to the surface of the crystals, which greatly increases the light-absorbing power of the



emulsion. It reduces cross-over simply because less light reaches the base. However, because a sensitizing dye is used, this light is not wasted. The light absorbed by the dye is used to create part of the image; minimizing cross-over and maximizing speed. This dye, of course, is removed during processing.

A new family of KODAK Films for KODAK 'Lanex' Screens

KODAK 'T-Mat' Films provide all the advantages of KODAK Ortho G Film and KODAK Ortho L Film, when combined with 'Lanex' Screens.

One other advantage of these new films is that they have a very great processing latitude, in terms of temperature and processing time.

Although they can be processed through any KODAK RP 'X-Omat' Processor, and the same chemicals as your existing films — there are no intermix problems. Although this is not an excuse for less careful management of processing, it does reduce further the need for repeats.

The range of films

KODAK 'T-Mat' G Film

A high-contrast orthochromatic X-ray film designed for general radiography or specific application where enhanced subject contrast and high resolution are important.

KODAK 'T-Mat' L Film

A wide-latitude orthochromatic X-ray film for applications such as soft tissue structures where extended tonal range is required to maximize diagnostic information, in addition to high resolution.

Applications

These films are intended for general use in high-quality radiography. The increase in available detail will be most apparent in orthopaedic work and trauma studies. Details such as trabecular patterns in bone are reproduced with exceptional clarity.

Speed relationships

KODAK Film	'Lanex' Screens		
	Regular	Medium	Fine
'T-Mat' G	400	300	100
'T-Mat' L	400	300	100

Speed base: 'X-Omat' G Film in 'X-Omatic' Regular Screens Data based on skull; 70 kV; Focus/film distance 1.5m; Grid ratio 1:8

Safelighting

KODAK GBX-2 Safelight Filter in a suitable safelamp.

Processing

KODAK 'T-Mat' Films can be processed in all KODAK RP 'X-Omat' Processors and RP ('X-Omat') Chemicals.

Packaging

For details of availability and packaging, consult your Health Sciences Buyers' Guide.

For more information about KODAK 'T-Mat' Films, consult your Kodak Sales Representative or

**Kodak Health Sciences Sales,
Kodak Limited,
PO Box 66,
Station Road,
Hemel Hempstead,
Herts HP1 1JU.**

The future of Medical Imaging — It's here!

The Future of Medical Imaging.



It's Here.

