January 1986

Express Specifications Warranties for Manufacturing Purchases: The Essential Contract Right in the Age of Quality

William F. Adams

Follow this and additional works at: http://digitalcommons.law.scu.edu/chtlj

Part of the Law Commons

Recommended Citation
Available at: http://digitalcommons.law.scu.edu/chtlj/vol2/iss1/6

This Article is brought to you for free and open access by the Journals at Santa Clara Law Digital Commons. It has been accepted for inclusion in Santa Clara High Technology Law Journal by an authorized administrator of Santa Clara Law Digital Commons. For more information, please contact sculawlibrarian@gmail.com.
EXPRESS SPECIFICATIONS WARRANTIES FOR
MANUFACTURING PURCHASES: THE
ESSENTIAL CONTRACT RIGHT IN THE
AGE OF QUALITY

William F. Adams*

I. INTRODUCTION

The electronics industry and a number of resurgent American industries, including, for example, the automobile and aerospace industries, are increasingly applying statistically based quality control techniques to their manufacturing activities and publicly proclaiming their quality goals. Generally, these “quality-conscious manufacturers” differ from conventional manufacturers in that

Copyright © 1986 William F. Adams. All Rights Reserved.

* William F. Adams is associated with the law firm of Orrick, Herrington & Sutcliffe, with offices in San Francisco and San Jose, California. Previously, he was Senior Attorney at Hewlett-Packard Company, Palo Alto, California, an international manufacturer of computers, electronic instruments, analytical and medical equipment, where he was responsible for corporate-wide purchasing of materials, computer hardware and software and telecommunications equipment as well as for corporate-wide employment law and litigation. He received his B.A. in 1972 from the University of California, Santa Barbara (with highest honors) and is a member of Phi Beta Kappa. He received his J.D. in 1975 from the University of California, Los Angeles, where he was a member of the U.C.L.A. Law Review.

1. The degree of conformance of purchased components or products to specifications can be measured by means of statistical techniques. Statistical techniques can also be applied to control quality in the processes by which products are manufactured, from materials procurement through assembly, shipment and storage of finished goods. B. Hansen, Quality Control: Theory and Applications 2 (1963); E. Kirkpatrick, Quality Control for Managers and Engineers 1-14 (1970). In either case the goal of statistical quality control is to measure conformance of products and processes to the stated requirements and ultimately to reduce defects. See infra Appendix 1.

2. For the purpose of this article, the term “quality-conscious manufacturer” will be used to refer to manufacturers who have installed a formal quality control system in their manufacturing and management processes that has as its standards or goals: (1) conformance of manufactured and purchased components to some set of stated requirements; (2) reduction of production defects by preventing them from occurring (rather than fixing them after they occur), usually by means of statistical quality control techniques; and (3) ultimately, zero defects. See generally P. Crosby, Quality Without Tears: The Art of Hassle-Free Management (1984); see also P. Crosby, Quality Is Free: The Art of Making Quality Certain (1979). The key elements of a quality system are described in Appendix 1, infra.

Ford Motor Company's widely publicized quality improvement program is an example of the type of quality control system that is discussed in this article. The theory underlying Ford's effort to improve its competitive position by improving its product quality has recently been described as follows:
component and materials specifications for their products and manufacturing processes have been statistically linked to particular performance and reliability criteria to improve quality and reduce defects. Manufacturers that are able to produce or purchase components that meet those specified criteria\(^3\) expect to produce finished products that are of high quality at reasonable expense. This article will concentrate upon the warranty needs for components purchases of both small and large quality-conscious firms in the electronics industry. However, it will in many ways be equally applicable to quality-conscious manufacturers in any industry.

The law of product warranties under the Uniform Commercial Code (U.C.C.) largely evolved before the spectacular rise of the electronics industry and the even more recent movement among electronics manufacturers and others toward rigorous statistical quality control techniques. Nevertheless, the U.C.C. was drafted so

---

\(^3\) A specification of an article may refer to measurements of length, diameter, weight, hardness, concentration, flocculence, color, appearance, pressure, parallelism, leak or some other characteristic. A specification may refer to performance. For example, the average time between failures of a machine must not be less than eight hours; or 95 percent of the machines bought must run one hour or more without failure.

W. DEMING, QUALITY, PRODUCTIVITY AND COMPETITIVE POSITION 323 (1982).

A specification must be linked to an operational definition that provides criteria for conformance, a test method for determining conformance and a basis for deciding conformance or non-conformance. \textit{Id.} This has consequences for attorneys reviewing proposed agreements having specifications warranties:

We have seen in many places how important it is that buyer and seller understand each other. They must both use the same kind of centimeter. Use of their instruments must agree well enough with each other . . . Without operational definitions, a specification is meaningless. There is probably nothing more important to the man in business, whether he be the buyer or seller (and he will be one, then the other), and to his lawyer as well, than a healthy appreciation for operational definitions. . . . Misunderstandings between companies and departments within a company about alleged defective materials, or alleged malfunctioning of an apparatus, often have their roots in failure on both sides to state in meaningful terms the specifications of an item, or the specifications for performance, and failure to understand the problems of measurement.

\textit{Id.} at 323-24.
that it would be adaptable to a wide variety of transactions.\(^4\) This built-in flexibility of the U.C.C. permits courts to supply new formulations to meet the needs of new technologies and new commercial relationships.\(^5\) An example of the U.C.C.'s adaptability is the extensive body of case law and scholarly literature to guide the developing judicial strategies that govern the acquisition of computer systems and software.\(^6\)

Unfortunately, there has been no significant focus in the case law or literature on the warranty protection requirements of quality conscious manufacturers. These firms must learn to make use of and adapt existing U.C.C. provisions via express contract language in purchase agreements to accomplish their quality goals. The warranty terms that would otherwise be implied by the U.C.C. are either inadequate or ineffectual to create enforceable quality warranties that meet the needs of quality-conscious manufacturers. On the other side of the commercial equation, there is little guidance available to suppliers who may desire for competitive reasons to adapt their sales practices to meet some or all of the exacting needs of these manufacturers. Since most firms are both a buyer and a seller, this article is intended to have application to both purchasing and sales activities.

The needs of quality manufacturers can be fully accommodated by effective use of a single, yet remarkably flexible, express warranty provision of the U.C.C., section 2-313.\(^7\) This article will

---


7. U.C.C. § 2-313 (1983) states:

   (1) Express warranties by the seller are created as follows:

   (a) Any affirmation of fact or promise made by the seller to the buyer which
analyze express warranties of quality under U.C.C. section 2-313 in the context of the needs of quality-conscious manufacturing. Particular emphasis will be placed on specifications warranties — a special category of warranties of description — which can be tailored to meet exacting manufacturing standards. Like all express warranties, specifications warranties are powerful tools that must be carefully crafted by buyers and sellers in order to ensure product quality while avoiding the potential for undue seller liability. Properly drafted specifications warranties provide buyers with the clearest possible right to obtain conforming goods. Vendors of shoddy, or even mediocre, component products must consider specifications warranties to be a scourge. If the specifications are clearly understood by buyer and seller alike, however, there is also a benefit to the seller. Better understanding means a greater likelihood of conformance to the specifications on the seller’s part. This benefit derived from well-understood requirements should translate into increased sales for the seller, as well as lower costs for the buyer.

II. QUALITY MANUFACTURING AND THE NEED FOR CONFORMANCE TO SPECIFICATIONS

In the electronics industry, firms purchase sub-assemblies, components and raw materials from outside vendors for assembly into finished goods such as computers and electronic instruments. Although they may succeed in controlling internal quality within their own firms, quality-conscious manufacturers need to “control” quality processes in the factories of their suppliers with respect to

relates to the goods and becomes part of the basis of the bargain creates an express warranty that the goods shall conform to the affirmation or promise.

(b) Any description of the goods which is made part of the basis of the bargain creates an express warranty that the goods shall conform to the description.

(c) Any sample or model which is made part of the basis of the bargain creates an express warranty that the whole of the goods shall conform to the sample or model.

(2) It is not necessary to the creation of an express warranty that the seller use formal words such as “warrant” or “guarantee” or that he have a specific intention to make a warranty, but an affirmation merely of the value of the goods or a statement purporting to be merely the seller’s opinion or commendation of the goods does not create a warranty.

these purchased components. This must be done through extensive communication and cooperation with suppliers. Many firms in the electronics industry are small or start-up enterprises which lack significant bargaining clout, have little or no control over their suppliers' products, and thus could be financially crippled by a supplier's failure to provide conforming materials or components necessary to maintain production levels. Nevertheless, they are under extreme competitive pressure to seek and obtain the cost and quality benefits of statistical quality control methods. The brief discussion that follows of the theory behind these quality control methods explains the reasons for these competitive pressures as well as the resulting emphasis on specifications warranties.

Although issues of quality are of importance to all manufacturers, manufacturing processes in the electronics industry and other related high-technology fields demand exceedingly high levels of quality from the various components that are assembled into finished products. For this reason, the electronics industry has embraced modern statistical quality control techniques. Partly in response to the work of American statistician Dr. W. Edwards Deming, who pioneered the science of statistical quality control in Japan and later helped revive those concepts in the United States,

8. The price or cost of nonconformance, which includes all of the expense of doing things wrong (including corrections, repairs, and warranty and other claims) can represent 20% or more of sales in manufacturing companies. P. CROSBY, QUALITY WITHOUT TEARS: THE ART OF HASSLE-FREE MANAGEMENT 85-86 (1984). The close working relationship with suppliers that is necessary to maximize the quality of purchased components generally leads to a reduction in the number of suppliers for each component. W. DEMING, supra note 3, at 29-30. This increases the dependency of buyers upon each supplier to deliver conforming components. Further dependence upon the supplier to perform is added by reduced use of mass incoming inspection by buyers who are relying upon the quality systems of suppliers to produce conforming components:

Routine 100 per cent inspection is the same thing as planning for defects, acknowledgement that the process cannot make the product correctly, or that the specifications made no sense in the first place.

Inspection is too late, ineffective, costly. When a lot of product leaves the door of a supplier, it is too late to do anything about the quality of the lot. Scrap, downgrading and rework are not corrective action on the process. Quality comes not from inspection but from improvement of the process. The only permissible exception is critical or semicritical parts, and critical assemblies and sub-assemblies.

Id. at 22.

The reduced number of suppliers and the decreased use of incoming inspection are factors that combine to increase the likelihood that any production defects will be discovered only after the components have been assembled into finished goods or delivered to customers. This consequence of the quality process increases pressure upon the agreement warranty to protect the buyer from breakdowns that occur in the supplier's quality system. There may be fewer defects in the delivered components, but those that do exist can be very costly for the buyer.
product quality has come to be of paramount importance in the minds of manufacturing managers in the electronics industry.

Dr. Deming, and other advocates of statistical quality control, view it as a method by which statistical measures are used to aid managers in their effort to identify and eliminate the common causes of system, product and component failure.\(^9\) Statistical methods are well-suited for identifying those causes of problems that are common to multiple employees, departments, machines and product components. These common causes are believed to account for more than 80% of the incidences of poor quality, impaired productivity and the resultant increase in manufacturing costs.\(^{10}\) For that reason, efforts that solely address the problems caused by an individual employee or machine are doomed to yield only marginal benefits. It is the functioning of the total manufacturing system that matters most. The implementation of statistical quality methods requires a thorough management commitment, but they can be, and are, used profitably by even the newest start-up companies.\(^{11}\)

One of the key tenets of those who champion statistical quality control methods is that quality manufacturing techniques cost no more than conventional methods, and can even increase profits.\(^{12}\) Thus, quality is seen as a means of enhancing productivity and not as a cause of reduced productivity. Quality and productivity are viewed as complementary to one another.\(^{13}\) The working definition of quality for purposes of statistical quality control is "conformance to requirements."\(^{14}\) This is not some form of generalized excellence. Rather, this definition is linked firmly to the need for processes and products to meet carefully derived specifications that have been determined to be important to performance or reliability or both. The ability to meet product specifications can make manufacturing processes productive and the resulting products profitable.

---

9. See generally W. Deming, supra note 3.
11. P. Crosby, Quality Without Tears: The Art of Hassle-Free Management 150 (1984). The author cites two examples of small companies that have used these techniques to reduce warranty expenses and the cost of quality.
12. P. Crosby, Quality is Free: The Art of Making Quality Certain 1 (1979). The author suggests that concentration to insure quality can increase profits by an amount equal to five or ten percent of sales. Dr. Deming states that "[d]efects and defective items are not free. The total cost to produce and dispose of a defective item exceeds the cost to produce a good one." W. Deming, supra note 3, at 21.
Today, no high-technology manufacturer has the ability to directly control all of the quality processes that affect its finished products. The sheer variety of materials and components needed in order to produce computers or electronic instruments today requires most firms to purchase some or all of those components from outside suppliers. The days of the completely integrated manufacturer in the electronics industry are gone. Buyers must communicate their identified quality needs to suppliers through written design or performance specifications. The best way to enforce these requirements is through the warranty provisions of the sales agreement. Consequently, quality-conscious manufacturers in the electronics industry rely upon product warranties to ensure that purchased components will conform to specifications.

III. THE INABILITY OF THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO MEET THE NEEDS OF MODERN QUALITY MANUFACTURING

Despite their inherent flexibility, adaptation of implied warranties under the U.C.C. to modern high-technology component purchases appears to be beyond reach. The implied warranty of fitness for a particular purpose, which might be expected to meet the buyer's needs, is seldom applicable to commercial transactions where detailed specifications are required by the buyer. The im-

15. Modern electronics equipment is composed of more than just a few integrated circuits, microprocessors and memories mounted on some printed circuit boards. Metal and plastic cabinets, power supplies, switches, cables, optoelectronic devices, cathode ray tubes, fans, and power cords are only a few of the kinds of materials that must be assembled in order to produce a finished electronic product. It should be noted that many of the devices, and much of the material, that comprise a finished electronic product are anything but high-technology matter. These devices and materials must be purchased from the same suppliers who also generally supply consumer and industrial electronics and electrical equipment, sheet metal, chemicals (including plastics) and all of the other ordinary materials and devices that are used in manufacturing. These diverse supply needs cross numerous industry boundaries and run the gamut of trade usages.

16. The job of attempting to ensure that a product will meet a particular demand of the buyer is handled in the U.C.C. by the implied warranty of fitness for a particular purpose in § 2-315. This warranty is usually inapplicable to contracts where the buyer has supplied detailed specifications to the seller, evidencing a reliance on the buyer's, not the seller's skill and judgment. Section 2-315 reads as follows:

Where the seller at the time of contracting has reason to know any particular purpose for which the goods are required and that the buyer is relying on the seller's skill or judgment to select or furnish suitable goods, there is, unless excluded or modified under the next section, an implied warranty that the goods shall be fit for such purpose.

U.C.C. § 2-315 (1983). This warranty is, by far, the lesser of the two implied quality warran-
plied warranty of merchantability protects the buyer's interest only to the extent that the seller fails to provide products that are "fit for the ordinary purpose for which such goods are sold."17 The merchantability standard is one of reasonableness, shaped more by the "norms of the marketplace" rather than by notions of perfection.18 In practice, for a product to fall short of the merchantability standard it must have some inherent defect of design or manufacture.19 Electronic components may be without an inherent defect

ties in terms of importance in commercial transactions. The warranty of fitness for a particular purpose is not commonly encountered "where one businessman buys goods that have to be specially selected or particularly manufactured and assembled for his business." J. WHiTE & R. SUMMERS, UNIFORM COMMERCIAL CODE 359 (2d ed. 1980). This implied warranty is usually disclaimed by the seller due to the uncertainty that ensues if the seller might be charged with guaranteeing the performance of the product for each and every special use to which the buyer might subject it. Even if this warranty is not disclaimed, the buyer faces uncertainty as well because of the requirement to prove the seller's actual or constructive knowledge of the buyer's particular purpose, as well as knowledge of the buyer's reliance upon the seller's skill or judgment to furnish appropriate goods. The buyer must also demonstrate actual reliance upon the seller's skill or judgment. Gumbs v. Int'l Harvester, Inc., 718 F.2d 88, 36 U.C.C. Rep. Serv. (Callaghan) 1579 (3d Cir. 1983); see also U.C.C. § 2-315 comment 1, (1983).


Those courts that make any attempt at all to distinguish the warranty of merchantability from that of fitness for a particular purpose usually hold that in order to invoke the fitness warranty, the buyer must have intended to use the goods for a purpose other than the ordinary purpose for which they are sold. See, e.g., Smith v. Stewart, 233 Kan. 904, 667 P.2d 358, 36 U.C.C. Rep. Serv. (Callaghan) 1141 (1983); see also B. CLARK & C. SMITH, THE LAW OF PRODUCT WARRANTIES ¶ 6.02 (1984).

The Official comment to § 2-315 (1983) supports the appropriateness of the distinction between the two implied warranties. It states as follows:

A "particular purpose" differs from the ordinary purpose for which the goods are used in that it envisages a specific use by the buyer which is peculiar to the nature of his business whereas the ordinary purposes for which goods are used are those envisaged in the concept of merchantability and go to uses which are customarily made of the goods in question. For example, shoes are generally used for the purpose of walking upon ordinary ground, but a seller may know that a particular pair was selected to be used for climbing mountains.


19. B. CLARK & C. SMITH, supra note 16, at ¶ 5.01[2][a]; see also J. WHiTE & R. SUMMERS, supra note 16, at 355-56 ("defect" and "unmerchantable" are nearly synonymous,
and yet may fall short of necessary quality standards.

The implied warranty of merchantability does not ensure that purchased components will perform exactly as expected by the buyer. Indeed, based upon the assurances provided by the warranty of merchantability, the buyer has no basis for complaint if the products do little more than approach average quality. This standard of quality does not permit individual firms to upgrade their quality demands to meet exacting statistical control requirements.

Compounding the problem for buyers, the express warranties against defects in materials and workmanship that are offered in many form sales agreements in the electronics industry amount to nothing more than "express warranties of merchantability," and apart from certain procedural advantages to the buyer, are virtually identical in effect to the implied warranty of merchantability in U.C.C. section 2-314. It is of little consequence to the buyer when except that, under a strict tort standard, a product must also be unreasonably dangerous); see also Santor v. A & M Karagheusian, Inc., 44 N.J. 52, 66-67, 207 A.2d 305, 2 U.C.C. Rep. Serv. (Callaghan) 599, 609 (1965) ("defect" defined as "not reasonably fit for the ordinary purposes for which such articles are sold and used").

20. The standards of quality in U.C.C. § 2-314 (1983) are expressed as follows:

(2) Goods to be merchantable must be at least such as
(a) pass without objection in the trade under the contract description; and
(b) in the case of fungible goods, are of fair average quality within the description; and
(c) are fit for the ordinary purposes for which such goods are used; and
(d) run, within the variations permitted by the agreement, of even kind, quality and quantity within each unit and among all units involved; and
(e) are adequately contained, packaged, and labeled as the agreement may require; and
(f) conform to the promises or affirmations of fact made on the container or label, if any.


21. B. CLARK & C. SMITH, supra note 16, at § 4.01[2]. The boilerplate express warranty of merchantability is cited by the authors as the best example of "warranty overlap" because it obligates the seller to meet the same modest quality standards as are contained in the implied warranty of merchantability under U.C.C. § 2-314(2) (1983). But see, e.g., Reasenberg, The Use of Volume Purchase Agreements in the Electronics Industry, 1 SANTA CLARA COMPUTER & HIGH-TECH. L.J. 223, 249-50 (1985) (the article contains a sample express warranty provision requiring that semiconductor products conform to the seller's specifications, or such specifications as seller has agreed to in writing, in addition to the ubiquitous warranty against defects in materials and workmanship). This warranty form is generally satisfactory from the buyer's perspective, although it does not automatically incorporate the buyer's specifications, which may differ from those of the seller's. For examples of express specifications warranties that are attuned to the needs of quality systems see infra Appendix 2.

22. B. Clark & C. Smith note that there are certain procedural and evidentiary advantages for the buyer who has obtained an express warranty of merchantability (particularly one reduced to writing) as opposed to an implied one. Some of the advantages they cite are that: (1) it cannot be disclaimed (assuming that the buyer faces no parol evidence rule bar-
the seller disclaims the implied warranty of merchantability and substitutes an express warranty of merchantability in its place. Substantively, these substitute express warranties differ only in that they are limited to an explicit (probably reduced) time period, usually a year or six months.

Neither a warranty of merchantability, nor an implied warranty of fitness for a particular purpose provides assistance or consolation to quality-conscious buyers. In particular, the modest standards embodied in the concept of merchantability under the U.C.C., whether contained in express or implied warranties, do little to advance the needs of high-technology manufacturers who demand more than minimal quality levels from their suppliers. The recent holding in Royal Typewriter Co. v. Xerographic Supplies Corp. typifies the problem faced by these buyers. The court held the warranty of fitness for a particular purpose to be inapplicable because the first generation plain paper copiers that were the subject of the suit were to be used for their ordinary purpose, copying. The court properly looked to the existing standards of the trade at

A much more important reason than those cited by Clark and Smith is that even the most carefully thought out express warranty cannot cover every contingency. It is of abiding comfort to the buyer to be assured that defects that were not called out in the express warranty will at least be warranted against under the merchantability standard. In situations where the implied warranty of merchantability has been disclaimed or is otherwise inapplicable, the lowly express warranty of merchantability may save the day for the buyer. See, e.g., Western Int'l Forest Prods., Inc. v. Boise Cascade Corp., 63 Or. App. 475, 665 P.2d 1231, 36 U.C.C. Rep. Serv. (Callaghan) 1558 (1983), in which the court held that an express warranty covering particleboard thickness tolerance "when installed" was not breached when the product swelled past the specified thickness while in storage. The buyer failed to properly plead an implied warranty of merchantability and was precluded from claiming that customer reluctance to buy the swollen boards amounted to a sort of "anticipatory breach" of the express warranty concerning thickness tolerance because the warranty applied only to performance after installation.

As a practical matter, if the implied warranty of merchantability is applicable, a court should require at a minimum, that the goods be fit for resale in the normal course of business. See Slawson, The New Meaning of Contract: The Transformation of Contract by Standard Forms, 46 U. Pitt L. Rev. 21, 27 (1984).

For a discussion of the concept of "merchant" under the U.C.C., see Hillinger, The Merchant of Section 2-314: Who Needs Him?, 34 Hastings L.J. 747, 782-87 (1983).

The warranty of merchantability does not require that goods be outstanding or superior. "It is only necessary that they be of reasonable quality within expected variations and fit for the ordinary purposes for which they are used." Sessa v. Riegle, 427 F. Supp. 760, 769, 21 U.C.C. Rep. Serv. (Callaghan) 745, 758 (E.D. Pa. 1977), aff'd mem., 568 F.2d 770 (3d Cir. 1978).

24. Id. at 1100, 37 U.C.C. Rep. Serv. (Callaghan) at 436-37.
the time of sale (1971) for guidance in determining if the product was merchantable, but those trade standards were not well-established for this new product. The court noted that the copiers were part of a new generation of plain paper copiers produced in "an era of rapid technological innovation." The court held that the buyer had failed to adduce evidence of any existing trade standards for plain paper copiers. Without such evidence, the buyer was unable to meet its burden of showing that the copiers were unmerchantable. This decision signals the added difficulty that buyers face in enforcing merchantability warranties for components in industries characterized by rapid technological innovation.

The *Royal Typewriter Co.* court also determined that the test of merchantability is a standard of minimal quality that does not require the goods to be the best available in the trade or even that they be equal to similar or competing equipment. Understandably, buyers relying upon purchased components to meet expected, statistically derived quality levels, must recoil in horror upon learning that their only U.C.C. supplied warranty protection is very nearly the antithesis of the quality dogma they embrace.

For a small, high-technology business, the cost of rejecting nonconforming components, together with the inherent delays in obtaining replacements can be very damaging to reputation, sales and profits. Since implied warranties offer minimal protection, only an express warranty of quality can provide frontline protection for the buyer's quality needs.

Of course, the ability to bargain for and obtain a specific warranty depends in part upon the size or buying power of the buyer. Small firms may be forced to accept the "defects in materials and workmanship" warranty, while larger firms may be able to compel strict adherence to detailed specifications supplied by the buyer. Notwithstanding this disparity, there is more to the concept of the express warranty than bargaining power. Small firms may be able to rely upon and enforce the seller's own published technical specifications, if these are properly incorporated into the purchase agreement or the bargain between the parties. Also, the overall competitiveness of the trade, the general quality levels offered by the various competitors and any number of other factors affect what warranty protection may be offered at a given time by particular sellers to particular buyers. It is also not unheard of for a seller to

26. *Id.* at 1099, 37 U.C.C. Rep. Serv. (Callaghan) at 436.
27. Indeed, small firms can take advantage of the benefits of quality systems that may
grant a particularized warranty for no other reason than the buyer requested it.

The many ways in which express warranties can be created, the variety of situations they can cover, the difficulty in disclaiming them and the ease in enforcing them are among the reasons that buyers and sellers should necessarily reevaluate their warranty needs as their firms enter the ranks of quality-conscious manufacturers.

IV. The Glories of Express Warranties

Specifications warranties are but a category of express warranties. Many of the properties of specifications warranties can be understood only in the broader context of express warranties. Express warranties are governed by U.C.C. section 2-313, but in a very real sense they are the product of the bargain struck by the parties to an agreement. Their inherent flexibility alone ought to be reason enough for sellers and buyers to take more advantage of express warranties in their transactions. From the seller's perspective, the express warranty can be limited in such a way as to restrict warranty liability to well-defined standards and conditions of product use. From the buyer's perspective, an express warranty can be

\[\text{have been installed at the behest of larger buyers, even if the seller refuses to grant a liberal warranty.}\]

28. The analogy of a carefully sculpted express warranty has been artistically stated:

Express warranties are chisels in the hands of buyers and sellers. With these tools, the parties to a sale sculpt a monument representing the goods. Having selected a stone, the buyer and seller may leave it almost bare, allowing considerable play in the qualities that fit its contours. Or the parties may chisel away inexactitudes until a well-defined shape emerges. The seller is bound to deliver, and the buyer to accept, goods that match the sculpted form.

Special Project, supra note 16, at 43-44. The embedded analogy of the parties as "chiselers" in the above-quoted passage is a bit unsettling, but the cases under U.C.C. § 2-313 make it clear that once the stone has been chipped away to reveal a distinct form, few legal defenses remain to the seller to permit it to "chisel" on the express warranty once made.

29. See, e.g., Chatlos Sys. Inc. v. Nat'l Cash Register Corp., 670 F.2d 1304, 1306, 33 U.C.C. Rep. Serv. (Callaghan) 934, 937 (3d Cir. 1982). The court ordered the manufacturer to meet the promised capabilities rather than permitting it merely to supply the agreed upon model number, which did not possess those capabilities:

[Buyer] did not order, nor was it promised, merely a specific NCR computer model, but an NCR computer with specified capabilities. The correct measure of damages [under U.C.C. § 2-714(2)] is the difference between the goods accepted and the value they would have had if they had been as warranted.


30. See, e.g., B. CLARK & C. SMITH, supra note 16, at ¶ 8.06 (annotated commercial warranty form severely limited as to scope, duration and buyer's remedies, but providing a warranty to published specifications of the seller).
molded to the precise needs of any exacting manufacturing process or other specialized requirement without having to resort to the unreliable, and seldom applicable, warranty of fitness for a particular purpose. Thus, express warranties can serve as guarantees of performance to a standard that is well beyond merchantability and can therefore be invoked for nonconformities in products that are otherwise merchantable and not defective.

Ideally, the seller determines for reasons of market strategy whether a better warranty will bring increased profits and the buyer shops around until the right terms are made available. Of course, today commercial sales are less commonly consummated upon customized terms and conditions. The dickering among shopkeepers and peddlers has, in many cases, been replaced by the seldom read and even more seldom understood, preprinted form documents that are exchanged at long range, like ICBM's.

The chief concern of this article, however, is with bargained for specifications warranties. Although the seller may offer at the outset a warranty that the buyer can immediately embrace, the quality-conscious buyer will ordinarily have to verify that the offered specifications conform to the buyer's manufacturing needs and incorporate "fixes" to address the buyer's identified common causes of failures. Alternatively, buyers may be able to "shop" for a seller that offers appropriate warranty protection as part of its standard terms and conditions. Supplier firms that build quality into their products can afford to do this and, increasingly, are doing so as a means of competition.

To obtain appropriate warranty assurances from most sellers, the buyer will ordinarily have to engage in a dialogue that is more constructive than a "battle of the forms." This "dialogue" can be

31. See supra note 16 and accompanying text.
32. Collins v. Uniroyal Inc., 126 N.J. Super. Ct. App. Div. 401, 315 A.2d 30, 14 U.C.C. Rep. Serv. (Callaghan) 306 (1973) (jury returned verdict finding a breach of an express road hazard warranty against blowouts, while apparently finding no defect in the tire), aff'd per curiam 64 N.J. 260, 315 A.2d 16 (1974). In an action for breach of an express warranty a defendant would not meet its burden by merely establishing that the product was non-defective, unless, of course, the express warranty were one of merchantability.
33. Described in the jargon of today's nuclear strategy, the U.C.C. favors the "first strike option." U.C.C. section 2-207 has brought about the demise in commercial transactions of the common law "mirror image" rule which required the acknowledging party to mirror the initial offer by agreeing to terms identical to those in the offer. Instead, the U.C.C. favors the party who fires the first contract "salvo" by requiring the acknowledging party to assent to the terms in offerer's forms. The responding party can avoid this result only by expressly specifying that the agreement is conditional upon the offerer's acceptance of the acknowledging party's additional or different terms. See Reasenberg, supra note 21, at 227-35.
elaborate and can include efforts by the buyer to fully specify the quality systems to be used in the seller’s plant to produce the components that the buyer has ordered. Even if the buyer must accept preprinted seller prepared forms, there is still much room for even the small buyer to obtain at least some of the needed warranty protection. This is possible because: (1) the U.C.C.’s concept of “bargain” is much broader than the form documentation, including within its reach the total agreement of the parties, and (2) express warranties are no longer created exclusively through use of “magic words.” As a result, express warranties can become “part of the basis of the bargain” almost irrespective of the medium of expression through which they are conveyed.

Common to all types of express warranties is the relative ease with which the buyer can establish their existence. The buyer need only show that the seller made or adopted a representation as to the goods and that the statement was part of the basis of the bargain.

34. See U.C.C. § 1-201(3) (1983) which defines “agreement” as the “bargain of the parties in fact” and includes not only the language used by the parties, but also elements of the transaction that are implied from the circumstances of the transaction including course of dealing, usage of trade and course of performance as provided in sections 1-205(1), 1-205(2) and 1-208, respectively of the U.C.C. Professor John E. Murray Jr., in his article, Basis of the Bargain: Transcending Classical Concepts, 66 Minn. L. Rev. 283 (1981-82), concludes that “[t]he essence of Article 2 is a more precise and fair identification of the true bargain-in-fact of the parties, unhampered by technical notions of classical contract law.” Id. at 289.


36. Clark and Smith describe the range of media as follows:


D. . [The seller may be liable if his representation regarding the goods takes the form of oral statements made during the negotiating process, instruction manuals, labels, newspaper or magazine advertisements, billboards, invoices, letters, brochures, order forms, bilateral sales contracts, telephone calls, cards included in packages with goods, and any other medium the mind can conjure up.] D. Clark and Smith also observe that no medium is favored over the others, with the exception of oral express warranties which may encounter a problem with the parol evidence rule. See U.C.C. § 2-202 (1983) which may require exclusion of prior or contemporaneous express oral warranties if they conflict with a writing that is intended by the parties as the final written expression of the parties as to the terms of the transaction.

37. Official comment 3 to U.C.C. § 2-313 supplies strong evidence that the drafters of the U.C.C. intended to make the “basis of the bargain” test less exacting than the “reliance” test that was in use prior its enactment. Comment 3 states:

The present section deals with affirmations of fact by the seller, descriptions of the good or exhibitions of samples, exactly as any other part of a negotiation which ends in a contract is dealt with. No specific intention to make a warranty is necessary if any of these factors is made part of the basis of the bargain. In actual practice affirmations of fact made by the seller about the goods during a bargain are regarded as part of the description of those goods; hence no particular reliance on such statements need be shown in order to weave them into the fabric of the agreement. Rather, any fact which is to take such
as opposed to being a mere "puff" that a reasonable person would not have relied upon. Small and start-up firms may be able to take advantage of one or more of the many kinds of these "pre-existing" or "off-the-shelf" supplier-created warranties even when they might be unable to command them in negotiations. When a seller's brochures and data sheets offer promises that are acceptable to the buyer, the buyer should attempt to append them to the agreement as exhibits, or in some other way demonstrate reliance. This will maximize the likelihood that these warranties will become part of affirmations, once made, out of the agreement requires clear affirmative proof.

The issue normally is one of fact.

The real issue is whether the jurisdiction in question continues to adhere to the reliance test. The term "basis of the bargain" is nowhere defined in the U.C.C. and, probably as a result, the courts are divided on the issue of whether the plaintiff must affirmatively show actual reliance upon the assurances, descriptions or samples supplied by the seller. See, e.g., Speed Fasteners, Inc. v. Newsom, 382 F.2d 395, 4 U.C.C. Rep. Serv. (Callaghan) 681 (10th Cir. 1967) (the court held that there could be no express warranty without a showing of the buyer's reliance); Community Television Servs., Inc. v. Dresser Indus., 586 F.2d 637, 24 U.C.C. Rep. Serv. (Callaghan) 85 (9th Cir. 1978), cert. denied, 441 U.S. 932 (1979) (there is no need for a showing of the buyer's actual reliance upon statements in seller's catalogue).

Among the professorial and expert commentator ranks, there is strong agreement that the continued use of the reliance test does some injustice to the intentions of the drafters of the U.C.C., but all are quick to point out that establishing a precise meaning for the term is a very difficult task. See J. WHITE & R. SUMMERS, supra note 16, at 332-39; WALLACH, THE LAW OF SALES UNDER THE UNIFORM COMMERCIAL CODE § 11.06[2]; B. CLARK & C. SMITH, supra note 16, at § 4.03 ("There are no words in Article 2 — or in the entire Code for that matter — more slippery than "basis of the bargain"); Special Project, supra note 16, at 50-58; see also, Comment, The Meaning of "Part of the Basis of the Bargain", 19 SANTA CLARA L. REV. 447 (1979).

38. U.C.C. § 2-313(2) (1983) provides: "[A]n affirmation merely of the value of the goods or a statement purporting to be merely the seller's opinion or commendation of the goods does not create a warranty." White and Summers observe that:

... the recognition that some statements are not warranties tells one nothing about where he should draw the line between puffs and warranties, and anyone who says he can consistently tell a "puff" from a warranty may be a fool or a liar. A statement that a seller's representation is only a puff and not a warranty is but a conclusory label. Indeed, one who reads a few of the cases gets the strong impression that the puff or warranty conclusion is only the product of an unobserved and subtle analysis that has to do with the reasonableness of the plaintiff's reliance, the seriousness of the plaintiff's injury, and other similar factors ... . To some courts the puff-warranty question is a backdoor means of examining the nature and reasonableness of the plaintiff's reliance.


39. Inclusion of data sheets and the like as exhibits to the agreement avoids the effect of any warranty disclaimers and integration clauses that might otherwise operate to exclude the warranties created by those data sheets.
the basis of the bargain. In practice, sellers seldom object to adopting their own representations within the agreement.

A. Warranties of Description Compared to Other Types of Express Warranties

U.C.C. section 2-313 provides three main types of express warranties: (1) warranties by affirmation or promise,\textsuperscript{40} (2) warranties by description or specification,\textsuperscript{41} and (3) warranties by sample or model.\textsuperscript{42}

1. Comparison to Affirmation or Promise Warranties

There is no clear dividing line between warranties by affirmation or promise and warranties by description. Affirmations of fact can actually become part of the description of the goods.\textsuperscript{43} Affirmations of fact and promises are treated identically by the U.C.C. The seller may promise that a product possesses a certain attribute, or the seller may simply state or affirm that the attribute exists. In either case the result is the same under the U.C.C. The affirmation warranty is the simplest in form and the simplest to create. It is this simplicity which is the cause of the proliferation of warranties by affirmation or promise in virtually every medium of commercial communication. They can be gleaned from sellers' brochures,\textsuperscript{44} oral statements over a loudspeaker at an auction,\textsuperscript{45} oral statements made at trade shows,\textsuperscript{46} or even by a combination of newsletter, letter, description in advertising brochure, model and oral statement.

\textsuperscript{40} U.C.C. § 2-313(1)(a) (1983).
\textsuperscript{41} U.C.C. § 2-313(1)(b) (1983).
\textsuperscript{42} U.C.C. § 2-313(1)(c) (1983).
\textsuperscript{43} See U.C.C. § 2-313 comment 3, (1983).
\textsuperscript{45} Slyman v. Pickwick Farms, 15 Ohio App. 3d 25, 472 N.E. 2d 380, 39 U.C.C. Rep. Serv. (Callaghan) 1630 (1984) (the seller caused the veterinarian to broadcast a medical opinion that the race horse's ostensible breathing problems were not due to any problem that would prevent the horse from racing; a written transcript of the veterinarian's remarks was later supplied to buyer).
\textsuperscript{46} Royal Typewriter Co. v. Xerographic Supplies Corp., 719 F.2d 1092, 37 U.C.C. Rep. Serv. (Callaghan) 429 (11th Cir. 1983).
as was the case in Auto-Teria, Inc. v. Ahern.\textsuperscript{47}

Affirmation or promise warranties differ from warranties by description, particularly specifications warranties, in one major respect. They are more likely to be labeled as "puffs." Of the five factors that Clark and Smith identify as important to courts in differentiating warranties from puffs, the level of specificity of the seller's representations is the one they consider "probably the most important\textsuperscript{48}:

The more specific the claims, the greater the likelihood that the claims qualify as express warranties under section 2-313. A generic description should not qualify as an express warranty of description. On the other end of the spectrum are those representations that are highly quantitative in approach, and thus, almost always go beyond mere puffery.\textsuperscript{49}

Specifications warranties, because of their tendency to be precise and quantitative, are considerably more useful to buyers who desire to clearly convey their quality needs in order to support manufacturing quality requirements. This does not mean that specifications warranties are problem free. Careful hedging by the seller still has its place in vitiating express specifications warranties. In Whittington v. Eli Lilly & Co.,\textsuperscript{50} birth control pills were prescribed together with a manufacturer's informative pamphlet that stated "the tablets offer virtually 100% protection."\textsuperscript{51} Unfortunately, the level of protection did not meet the expectations of the buyer. The buyer, apparently lulled by the pseudo-precision of the language of the pamphlet, had focused on the "100% protection," while the manufacturer had placed its reliance upon the modifier, "virtually." The manufacturer prevailed in the ensuing litigation, demonstrating that "virtually 100%" may not constitute an adequate warranty for birth control pill users. Consequently, it is unwise from the buyer's

\textsuperscript{47} 170 Ind. App. 84, 352 N.E.2d 774, 20 U.C.C. Rep. Serv. (Callaghan) 336 (1976) (the seller represented that car wash system's brush mechanism could be coin-operated).

\textsuperscript{48} B. CLARK & C. SMITH, supra note 16, at § 4.02[4][e]. The other four factors identified by Clark and Smith that distinguish warranties from puffs are: (1) the comparative expertise of buyer and seller with respect to the goods, (2) general trade usage and commercial understanding, (3) the degree to which the goods are prototypes or experimental in nature, and (4) the extent to which the seller hedges his representations. \textit{Id.} at § 4.02[4][2][f].

\textsuperscript{49} \textit{Id.} at § 4.02[4][e].


\textsuperscript{51} \textit{Id.} at 100, 9 U.C.C. Rep. Serv. (Callaghan) at 1180. The plaintiff testified in her deposition that she did not know what the word "virtually" meant. She learned that it did not mean absolute effectiveness in preventing pregnancy. According to the defendant's expert medical witness, the oral contraceptive in question, "C-Quens," never exceeded a 1.9 gross pregnancy rate per 100 woman years in clinical trials. \textit{Id.} at 99-100, 9 U.C.C. Rep. Serv. (Callaghan) at 1179.
standpoint to have such words in specifications warranties. In a negotiated commercial warranty context, the buyer would be well-served by seeking to eliminate any language that hedges the apparent precision of the warranty. If “virtually” is not good enough, as it apparently was not in *Whittington*, the buyer must seek to obtain the level of specificity in the warranty that meets its identified manufacturing needs.52

2. Comparison to Sample or Model Warranties

Warranties by sample or model are ostensibly the most precise of express warranties.53 Samples and models are accorded the same presumption, of being part of the basis of the bargain, as other forms of express warranties. Since they are “silent warranties,” however, they do not convey as much information about the seller’s warranty obligations as one might initially presume.

Even the simplest of components has a substantial array of attributes, ranging from its chemical or molecular constituency to its color. Some of those attributes may matter to the buyer and others may be irrelevant. For example, the color may be important, while the construction may acceptably be of either plastic or steel. The only means that the buyer has to assure that the product that is delivered by the seller meets the buyer’s need, is to call out the attributes that matter to the buyer. This may be accomplished by adding words of affirmation or description (including appropriate plans and drawings). Unfortunately, the need to augment the sample or model warranty in this way in order to achieve substantial precision reduces the independent value of sample or model warranties.54 Certainly, the quality-conscious buyer will desire to describe

52. *See*, e.g., Bickett v. W.R. Grace & Co., 128 Ga. App. 266, 196 S.E.2d 357, 12 U.C.C. Rep. Serv. (Callaghan) 629 (W.D. Ky. 1972) (the seed characteristics were said to be “very good,” “high,” “adequate,” and “good . . . tolerance”; these statements were held to be opinions and commendations and not express warranties); Olin Mathieson Chem. Co. v. Moushon, 93 Ill. App. 2d 280, 235 N.E.2d 263, 5 U.C.C. Rep. Serv. (Callaghan) 363 (1968) (the explosives were said to be of “good quality” and “good results would be obtained”; held that no express warranty was created by this sales talk or seller’s opinions).

53. U.C.C. § 2-313 comment 6, (1983) explains the difference between samples and models. A “sample” is actually and fairly drawn from the bulk of the goods that are the subject matter of the sale. A sample, then, is an embodiment of the desired characteristics of the product. A “model” is not so drawn from the existing bulk, but is offered for inspection when the subject matter is not at hand. A model, therefore, is less likely than a sample to be presumed to be a literal description of the subject matter.

54. *See*, e.g., E.L.E.S.C.O. v. Northern States Power Co., 370 N.W.2d 700, 41 U.C.C. Rep. Serv. (CALLAGHAN) 414 (Minn. App. 1985)(warranty by sample was breached when the coke delivered for use in a power plant did not have the 12,500 BTU value per pound that was specified in the contract when tested by the buyer after delivery, and a previous in-
all important quality values as well as any latent or nonobvious attributes that are needed to achieve the buyer's quality goals, although perhaps some of the relevant attributes of the sample or model may be obvious enough or unimportant enough to leave to the court's good judgment to enforce. In case of any conflict between exact or technical specifications and a sample or model, the specifications will displace the inconsistent sample or model.55 Thus, sample or model warranties can effectively coexist with specifications warranties, even if inconsistent to some extent.

Express warranties of description are not immune to the problems of "silent" sample or model warranties since they are not confined to written or oral statements. The U.C.C.'s drafters made it quite clear that description warranties could be a multi-media affair just as are warranties by promise or affirmation. Official comment 5 to U.C.C. section 2-313 states:

A description need not be by words. Technical specifications, blueprints and the like can afford more exact description than mere language and if made part of the basis of the bargain goods must conform to them.56

In the leading case of Rinkmasters, Inc. v. City of Utica,57 an illustration of an ice rink resurfacing tank in the seller's "purchasing guide" did not match the product that was delivered. The water release handle was not within reach of the operator and the surfacing blade did not extend beyond the width of the tank.58 The only descriptive words in the brochure merely stated the product dimensions and that special sizes could be made to order.59 The seller argued that the items delivered were the items ordered. However, he admitted that they differed from the illustrations, but claimed that they were new and improved models.60 The City Court of Utica made it clear for all time that such arguments defy the clear intent of the U.C.C. and placed the seller on "thin ice," stating:

Most of the cases have involved the word description of merchandise. However, there has been an increased use of illustrated
catalogues and brochures by businesses in search of trade. The traveling salesman has been replaced by the catalogue. Multi-colored catalogues are thrust upon the public as invitations to purchase. Description by words is limited, but drawings, photographs and blueprints are profusely used to guide and entice the purchaser. It is axiomatic that "a picture is worth a thousand words." The description of goods set forth in the Uniform Commercial Code certainly covers illustrations as well as words.\(^{61}\)

It was nevertheless necessary for the buyer to prove that the variations from the illustration were significant ones amounting to a breach of warranty and justifying an award of damages. A few well chosen words of description (not necessarily a thousand) to accompany the "picture" could help a court understand what is important in the picture.

B. The Benefits and Burdens of Express Specifications Warranties

Although they are not perfect, express specifications warranties potentially offer the parties to a transaction the ultimate in exactitude. There should seldom be any misunderstanding when both parties are operating under the same objective standards.\(^{62}\) Express specifications warranties offer important incidental benefits to buyers in terms of ease in identifying nonconformities and giving timely notice of breach to the seller under U.C.C. section 2-602.\(^{63}\) More-

---

61. Id. at 942-43, 13 U.C.C. Rep. Serv. (Callaghan) at 800, citing § 2-313 comment 5. As if to reassure the reader that the City's victory was not tainted because the City was "skating on its home ice," the local court went on to explain that the seller could have relieved itself of the responsibility for strict conformity to the illustration by merely indicating in the purchasing guide that the items were not as illustrated. Id. This practice of disclaiming accuracy is now a common one for catalogue sales where the delivered product may differ from the photograph or drawing in the catalogue. Depending upon the nature of the disclaimer, the resulting warranty, if any, may bear an analogy to model warranties where the embodiment of the product is not precise, but the seller will be held to provide a product within the general contours of the model. See generally Grady, Inadvertent Creation of Express Warranties: Caveats for Pictorial Product Representations, 15 U.C.C. L.J. 268 (1983).


The technical specifications for the product are the core of quality control. All quality activity stems from the specifications. The specifications' effectiveness in controlling quality is dependent upon a standard for interpretation and a method of measuring the quality characteristic that is consistent with the standard. Id. at 12. A fully elaborated technical specification should either include or reference a standard method for making a physical measurement of a product to determine its degree of conformity to the design requirement. Thus, to be effective, a specification must control the variability of the quality characteristic in question. Id.

63. U.C.C. § 2-602(1) (1983) requires that the buyer reject non-conforming goods
over, when the parties have a clear and objective measure of performance, the likelihood that nonconformities will be "cheerfully" cured by the seller is enhanced, and it is less likely that litigation will ensue over the existence of some ill-defined defect.

Buyers are not the only beneficiaries of express specifications warranties. Where the parties negotiate via technical specifications or engineering drawings and these specifications and drawings are incorporated in the bargain (such as through inclusion of one or more exhibits to the agreement), there is a strong likelihood that other, possibly conflicting, express warranties will be excluded. This is true even though the conflicting warranties might otherwise have been presumed to be part of the basis of the bargain. Exclusion of such warranties assists the seller because the various forms of inadvertently created warranties from brochures, sales presentations and other pre-negotiation contacts with the buyer will tend not to spring up and surprise the seller.

An example of the primacy of negotiated technical specifications over other warranties in sellers' brochures or other materials is provided by the decision in *Price Brothers Co. v. Philadelphia Gear Corp.* The buyer had ordered two components from the seller for use in the buyer's pipe wrapping machinery. The components did not perform as expected, but the buyer made no claim that they failed to meet the negotiated technical specifications that were made part of the agreement between the parties. Instead, the buyer claimed reliance upon representations contained in a journal article, pre-contract sales literature and alleged oral assurances of seller's representatives. In holding that these extraneous materials were not a part of the basis of the bargain, the court recognized the primacy of the technical specifications:

Where both parties to a contract are merchants who are on equal footing with respect to the subject matter of their transactions, and their sales agreement is reduced to a writing that specifies technical requirements for the goods sold, it would stretch reason beyond its limits to find that the buyer relied upon verbal assur-

---

within a reasonable time after their delivery or tender, and the rejection is ineffective unless the buyer has "seasonably" notified the seller. U.C.C. § 2-605 requires the buyer to particularize defects if ascertainable by reasonable inspection so that the seller may cure the defect. A deviation from the specifications is simpler to identify and prove than some vague failure of merchantability. It is more likely that the buyer will detect the defect before the products containing the defective component are released for sale to customers. See generally Greenfield, *Rejection of Non-Conforming Goods*, 90 Com. L.J. 10 (1985).

64. U.C.C. § 2-317(a) (1983).
66. Id. at 422, 31 U.C.C. Rep. Serv. (Callaghan) at 474.
The court found the specifications to be persuasive indications that the buyer considered its needs and ordered components with those specific needs in mind. "Such specificity," the court observed, "is antithetical to any finding that Price Brothers relied on nonspecific, precontract statements in a journal article as a basis for purchasing Philadelphia Gear components."68

Thus, if the sales contract is to incorporate express specifications warranties, the parties should take care to ensure that the referenced specifications are accurate, and that they comprehensively encompass the key design or performance parameters. If the specifications route is chosen, it is clear that other forms of express warranty may be displaced69 and any inconsistent obligations that would have otherwise been created by these other warranties will be obliterated.

Small firms lacking in bargaining power should, correspondingly, make every effort to demonstrate reliance on seller supplied specifications warranties wherever they may be found. If unable to do so, they should make effective use of other available warranties in pamphlets, brochures or other media that would otherwise be excluded by negotiated specifications. Small business buyers may have greater success than buyers in larger firms in arguing that various promises, affirmations and even specifications in the seller's sales literature or data sheets are enforceable warranties. Decidedly, though, small firms are at a disadvantage to larger firms in their ability to maintain effective quality systems unless they are able to find sellers who are willing to offer, in one form or another, appropriate technical specifications warranties.

C. Special Problems Involving Specifications Warranties for Prototypes or Developmental Products

The rapid pace of technological development profoundly af-

67. Id. at 423, 31 U.C.C. Rep. Serv. (Callaghan) at 475.
69. U.C.C. § 2-317(a) (1983) provides a rule of construction for inconsistent express warranties. It calls for exact or technical specifications to displace an inconsistent sample or model or general language of description, unless such a construction is inconsistent or unreasonable in light of the intentions of the parties at the time of contracting.
fects commercial contracting practices regarding prototypes and developmental products in the high-technology area. Manufacturers are always eager to incorporate the latest components into their systems, and sellers are equally interested in making sales on newly developed products in order to begin recovering expenses of development.

In light of these motivational factors, it is not surprising that buyers and sellers routinely enter into sales agreements involving developmental products. It is very common in such agreements for the seller to attempt to limit the effectiveness of any specifications or other express warranty by some form of attempted disclaimer or hedging. The buyer must decide whether to commit to use of a developmental component product, given the extent to which the seller disclaims warranty protection. A difficult issue arises with respect to any apparent clash between the language of warranty (which often includes very elaborate technical specifications) and the language of disclaimer. This issue arises because it is possible that the seller's attempt to vitiate the effect of any quoted specifications via a disclaimer may be held inoperative. The intent and expectations of the parties will control, but the seller should take particular care in choosing limitation language that clearly sets the buyer's expectations at a reasonable level. Such an approach may avoid a judicial finding that the attempted disclaimer is inoperative. The seller should physically place written disclaimers in close proximity to written specifications so that claims of surprise on the part of the buyer will be less credible.

Ostensible express warranty language involving prototype or developmental products will more likely be held to be puffing or expressions of the seller's opinion. However, a clear expression of warranty language, particularly through use of technical specifica-

---

70. U.C.C. § 2-316 (1985) permits exclusion or modification of warranties. It even permits disclaimer of express warranties whenever it is reasonable to construe the warranty and the disclaimer as consistent with each other. However, if a consistent construction of the two is unreasonable, the disclaimer will to that extent be rendered inoperative. Official comment 1 to section 2-316 of the U.C.C. states that the purpose of this rule is to "protect a buyer from unexpected and unbargained language of disclaimer by denying effect to such language when inconsistent with language of express warranty. . . ."


72. See, e.g., U. S. Fibres, Inc. v. Proctor & Schwartz, Inc., 509 F.2d 1043, 16 U.C.C. Rep. Serv. (Callaghan) 1 (6th Cir. 1975) (the disclaimer was held valid where the language relied upon by the buyer as an express specifications warranty, calling for a conveyer to hold a tolerance of ± 1/3 inch, was sandwiched between two written disclaimer statements in the agreements between the parties), aff'd 358 F. Supp 449, 13 U.C.C. Rep. Serv. (Callaghan) 254 (E.D. Mich. 1972).

73. B. CLARK & C. SMITH, supra note 16, at ¶ 4.02[4][c]. The reasonableness of the
tions, may well be given effect by a court. This clear expression may be overcome by evidence that the warranty language could not reasonably have formed part of the basis of the bargain (because of the experimental nature of the goods or for some other reason). However, sellers should not take the risk that the buyer's lack of reasonableness will be recognized by a court.

From the perspective of buyers of prototype or developmental equipment that is to be incorporated into a manufacturing process or to serve as a component in a finished product, there is a dilemma that must be resolved through a business decision. Unless the seller is prepared to offer the product with an appropriate warranty, the buyer must recognize that no express or implied warranty protection may be available for such goods. The buyer may wish to respect the apparent judgment of the seller as to the lack of reliability or inadequate performance of the product as reflected in the ineffectual or nonexistent warranty. If that route is selected, the buyer should await the association of an appropriate warranty with the product before incorporating the component into the buyer's products or processes.

Buyer performed tests on sample prototypes may aid in determining the performance characteristics of the product but, alas, without warranty protection the buyer could later encounter severe problems if the seller makes modifications in the basic design of the product. Problems can also arise if production quantities vary significantly from the buyer's expectations is often a deciding factor in characterizing language as either a puff or a warranty.

74. See Murray, supra note 34, at 301-02. Professor Murray argues that the issue in these cases should revolve around whether, in light of the circumstances that form the bargain-in-fact between the parties, the language of warranty actually forms part of the basis of the bargain. There is no need, he argues, for courts to analyze the effectiveness of the disclaimer when there is no express warranty to be disclaimed. Id. at 301. With respect to experimental goods, the circumstances surrounding the transaction that ought to reduce the level of the buyer's expectations may be examined by the court. Id. But clear technical specifications have their own force due to their precision, making them difficult to dismiss as puffery or opinion. See, e.g., Downie v. Abex Corp v. General Motors Corp., 741 F.2d 1235, 39 U.C.C. Rep. Serv. (Callaghan) 427 (10th Cir. 1984) (the more specific the descriptive statement, the more likely it constitutes an express warranty). Specifications, therefore, should not be quoted to buyers of prototypes or developmental goods without being adorned with appropriate disclaimers.

75. See, e.g., Price Brothers Co. v. Philadelphia Gear Corp., 649 F.2d 416, 31 U.C.C. Rep. Serv. (Callaghan) 469 (10th Cir. 1981);

Where there is no trade for an experimental machine and no proof or evidence pointing to a record of past years on which a determination of its ordinary purpose could be found, there is no implied warranty created in the instance. Id. at 424, 31 U.C.C. Rep. Serv. (Callaghan) at 477, citing 3 A. Squillante & J. Fonseca, WILLISTON ON SALES 81, § 1809 (4th ed. 1974), citing Axion Corp. v. G.D.C. Leasing Corp., 269 N.E.2d 664, 9 U.C.C. Rep. Serv. (Callaghan) 17 (Mass. 1971).
significantly in their performance from the tests or from the developmental specifications. The buyer desiring to incorporate "state of the art" components in the buyer's product runs the risk that the components may prove to be just a "little ahead of their time." This, unfortunately, leaves the buyer without a remedy unless warranty protection is obtained. The buyer may at least be able to persuade the seller to adhere to some minimally acceptable performance levels that may be reasonably achievable by the seller during the prototype or developmental stage. Later, more exacting protection can be phased in as confidence in the product — and desire for a return on investment — builds within the seller.

V. CONCLUSION

Express specifications warranties are powerful tools offered by Article 2 of the Uniform Commercial Code. Carefully applied to modern quality manufacturing systems and processes, they can help to ensure that common, statistically identifiable causes of failures or unreliability can be substantially reduced. Like all express warranties, specifications warranties can protect the buyer from a far wider range of problems than mere warranties against defects. As stated in Huebert v. Federal Pacific Electric Co.:

a manufacturer may by express warranty assume responsibility in connection with its products which extends beyond liability for defects . . . in the product may be immaterial if the manufacturer warrants that a product will perform in a certain manner and the product fails to perform in that manner. Defects may be material in proving breach of an express warranty, but the approach to liability is the failure of the product to operate in the manner warranted by the manufacturer.77

Compared with other forms of express warranties, specifications warranties provide an unequalled level of potential exactitude and certainty of application. They are less likely to be labeled as puffs or otherwise be excluded as not part of the basis of the bargain. From the seller's perspective, specifications are less likely to enter into the bargain inadvertently (although when specifications are supplied by the seller in some medium extraneous to the written agreement, if any, without appropriate exclusion or disclaimer, those specifications may constitute effective express warranties). Additionally, sellers benefit from the logical exclusion of promises, affirmations, samples or models that conflict with or appear to be

76. 494 P.2d 1210, 10 U.C.C. Rep. Serv. (Callaghan) 545 (Kan. 1972)
77. Id. at 1215, 10 U.C.C. Rep. Serv. (Callaghan) at 552.
superseded by technical specifications that are incorporated into an agreement.

Finally, the potential for clarity and exactitude of express specifications warranties benefits both parties by increasing the likelihood that the seller will deliver goods that conform to the objective measure and that the buyer will recognize them as such, or promptly return them for repair or replacement before any substantial damages or delays have been suffered. Thus, the risk of disagreement, the burden of demonstrating breach and the damages from any breach are all more likely to be correspondingly reduced.

Given all of these positive attributes for quality assurance and enforceability, buyers and sellers should make increased use of both the power and precision of express specification warranties to improve manufacturing processes, and to improve overall product reliability and performance. Express specifications warranties constitute an effective and essential contract right for component purchases by modern manufacturers as America enters the age of quality.

---

78. The remedy of “cover” under U.C.C. § 2-712(1) is a powerful inducement to sellers to provide conforming goods, or to repair or replace promptly at the risk of having to pay the additional cost of the buyer in obtaining substitute goods from another source. The remedy of cover is an essential remedy that should ordinarily be available to any manufacturer that purchases components that are to be incorporated into finished goods. See generally Henson, Warranties and Remedies for their Breach under the Uniform Commercial Code, 31 PRAC. L. 31, 43-44 (1985); B. CLARK & C. SMITH supra note 16, at § 7.04[2] (“This remedy, called ‘cover’, is vital for the buyer who needs the goods but has been disappointed by a breach of warranty . . . The beauty of the remedy is that it fulfills the buyer’s basic needs while at the same time providing a precise measure of monetary damages”). Thus, cover is the essential remedy in the age of quality. Of course, sellers may desire to limit the availability of this remedy to the purchase of substitute products that are not substantially more expensive than those that are the subject of the contract. The buyer, in turn, will insist upon allowance of some premium over the contract price to cover the cost of substitutable products purchased on the “spot” market. For further discussion of the cover remedy, see, Gordon & Milligan, supra note 29.
APPENDIX 1
BASIC ELEMENTS OF QUALITY SYSTEMS

Quality systems are not solely the province of large firms. In fact, many start-up enterprises installed quality systems as part of their initial business activity. A quality system essentially consists of statistical monitoring and testing of materials and products at key points in the manufacturing process. Records are created at each stage to document the process for internal management. These records also provide purchasers with evidence of the functioning of the supplier’s quality system. Many purchase agreements require the supplier to maintain these records and permit the buyer to audit them. Quality systems enable firms of any size to monitor their own manufacturing processes and determine their warranty needs for vendor-supplied components and materials. They also permit firms to demonstrate their quality levels to their own customers. The key points in the manufacturing process that are commonly the subject of monitoring and documentation are:

1) *Incoming Material.* Clear and complete purchase specifications from properly qualified vendors are required. Additionally, the quality of incoming material must be monitored. Discrepant material is to be detected promptly and the process corrected to prevent recurrence.

2) *Material Control and Handling.* Storage, handling, packaging and shipping procedures to prevent damage and deterioration are required to be documented. All material must be identified and traceable to purchase and inspection records in order to permit statistical process analysis.

3) *Fabrication, Assembly and Production Testing.* All operations and processes must be subject to statistical control. All manufacturing personnel must be trained. Persons associated with critical processes such as wafer or printed circuit board fabrication must be periodically evaluated or certified. Work in process must be tested as appropriate to assure compliance with specifications.

4) *Outgoing Material.* Material must be monitored to assure compliance, and corrective action taken to eliminate discrepancies. Outgoing material evaluation records are to be kept for audit of the evaluated material, the quantity tested, methods used, test results and corrective actions taken.

5) *Tooling, Measuring and Test Equipment.* All such equipment must be periodically calibrated to standards traceable to U.S. Bureau of Standards or National Standards Laboratory standards.
(6) **Work Instructions, Documentation and Change Control.** Changes to products, processes or materials are to be made only with approval of the purchaser. Upon such approval, changes are to be implemented and documented. Necessary specifications and related information must be relayed to the supplier's vendors.

(7) **Control of Non-Conforming Material.** Non-conforming material must be segregated and stored clear of conforming material prior to disposal or re-work.

(8) **Corrective Action Procedures.** The corrective action program must be documented with records of discrepancies (by lot number or other identification), their frequency, corrective action taken and evaluation of corrective action.

(9) **Sampling Plans.** Statistical sampling methods must be based upon sound mathematical principles and properly documented. All assignable (or common) causes for device performance must be identified and controlled such that improvements can be derived only from basic design or process changes.
A properly drafted specifications warranty clause should refer to the agreement that list each ordered product or part. The list should contain or reference the applicable design or performance specifications. These specifications must in turn incorporate or reference agreed upon test standards and methods that are to be applied to monitoring of the manufacturing process for conformance to the standards. When all of these steps are accomplished the specifications warranty can be an effective means of communicating product quality requirements as well as a means of enforcing them. Counsel for the respective parties should ensure that this technical documentation has been prepared in a form that can be incorporated into or clearly referenced by the agreement. This effort on the part of counsel may be more important than any other step in the agreement drafting process. Once accomplished, the chances of confusion and disagreement will be minimized. This is a goal that is achievable only by means of an express specifications warranty that is supported by relevant documentation.

The text below provides an example of a specifications warranty that accomplishes the buyer's goal of referencing the buyer's own specifications:

**WARRANTY**

(a) Seller warrants that the products shall conform strictly to the specifications attached to this agreement as Exhibit A, including any applicable drawings, general specifications, or quality provisions referenced or referred to in Exhibit A. Seller also warrants that the products shall be free from defects in materials and workmanship. Such warranties shall survive any inspection, delivery, acceptance or payment by Buyer for one year following the date of receipt by Buyer. Seller also warrants that it has title to the products and warrants against any infringement of that title.

(b) **EXCEPT AS PROVIDED FOR IN THIS AGREEMENT SELLER MAKES NO OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Small businesses may be able to add at least some of their own specifications in an exhibit to the agreement. In all other respects the supplier's specifications usually govern the transaction. The
clause below permits attachment of exhibits that either contain or reference whatever specifications are agreed upon:

**ALTERNATE FIRST SENTENCE OF WARRANTY**

(a) Seller warrants that the products shall conform strictly to Seller's applicable specifications and any additional specifications, quality provisions or other descriptions attached to this agreement as Exhibit A or referenced or referred to in Exhibit A.

The above sentence can be used to replace the first sentence of subparagraph (a) of the warranty paragraph. In all other respects the rest of the warranty paragraph can remain unchanged after insertion of the alternate first sentence.

The additional language in the warranty paragraph includes an express warranty of merchantability, a one-year warranty period, and an express warranty of title and warranty against infringement of title.

Subparagraph (b) is a non-controversial disclaimer of all other implied warranties. The implied warranty of merchantability has already been incorporated as an express warranty. The implied warranty of fitness for a particular purpose has been disclaimed (as sellers usually insist).