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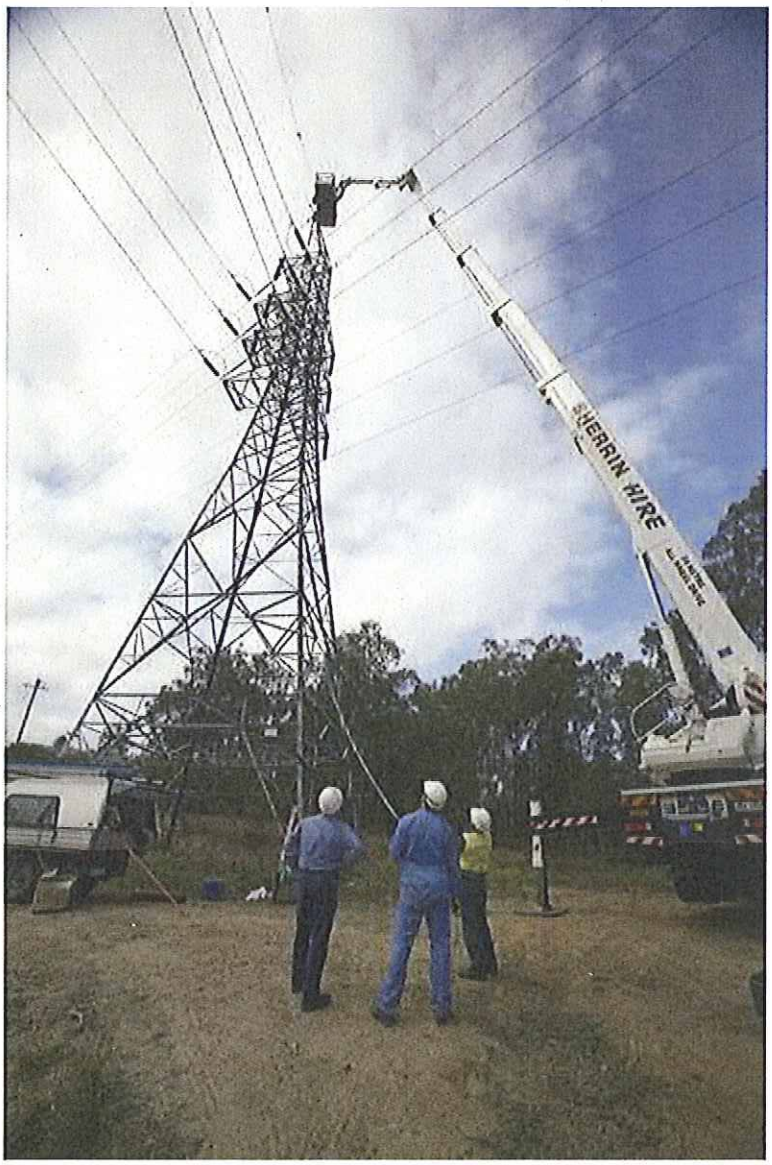
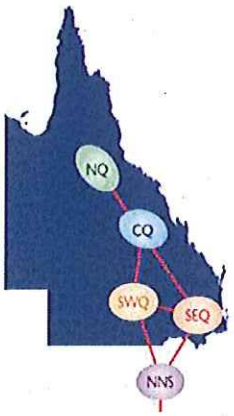
2010 NON NETWORK PLAN

Powerlink QUEENSLAND

Overview





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- Must only be used or copied for the purpose intended in this report (namely the replacement of non network assets by Powerlink); and
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1. Introduction

The 2010 Non Network Plan (NNP) provides an analysis of the capital expenditure need for Powerlink's non-network assets that comprise primarily business information technology and Support The Business expenditure (i.e. commercial buildings, motor vehicles, and moveable plant).

Forecasting of business information technology requirements has been undertaken through a planning process that identifies specific future business needs and expenditure required for information technology applications and infrastructure. These needs are aligned with the information technology investment strategies to ensure future investment is in accordance with Powerlink's overall Asset Management Strategy.

Support The Business capital expenditure is developed with regard to a mix of historic trends and future expectations of business requirements.

Future investment requirements for Commercial Buildings takes into account known projects to renew or expand building capacity based on forecast business requirements, in addition to provisions for future capital expenditure to replace assets forming part of buildings based on assessed condition and historical expenditure profiles.

The Motor Vehicle category includes fleet and mobile plant. Fleet has been forecast using current known costs and future business requirements. Mobile plant capital expenditure has predominantly been forecast with regard to historical capital expenditure trends and adjusted where specific future investment requirements have been identified.

The Moveable Plant category of Support The Business consists of tools and equipment. This has been forecast using current capital expenditure trends.

2. Assets Under Consideration

This non-network plan provides information on the following two categories of essential capital expenditure that is required to support Powerlink's core regulated transmission network in Queensland:

- Business Information Technology; and
- Support The Business.

2.1 Business IT

Business IT includes digital technology infrastructure and applications, which are associated with operating Powerlink's business. Business IT systems are implemented and managed to obtain the maximum benefit from standardisation and economy of scale, to avoid unnecessary diversity and duplication, and to enable the integration of information systems which can be used across the whole business.

Business IT equipment includes servers, workstations, hubs, routers, software, licences, printers, and so on.

2.2 Support The Business

Support The Business capital expenditure includes all remaining non-network regulated capital expenditure and has three sub-categories:

Commercial Buildings – Powerlink has a number of significant sites that have fit for purpose buildings located on them – Virginia (Head Office), Brendale (Disaster Recovery) and Narangba (Warehouse). Each of these sites has a range of different aged buildings each requiring different levels of works to ensure suitability to requirements is continued into the future.

There are other components that are covered by this category including office machines and equipment, land and houses.

Motor Vehicles – Powerlink maintains specialised service vehicles that have custom-built bodies or are custom made so as to carry out necessary expert maintenance or construction works whilst at site. These vehicles include elevated work platforms, service trucks, specialised cranes, highly modified trailers, callout vehicles and cable brakes.

Moveable Plant – These assets are composed of the (generally) hand held devices required to maintain the in-service assets, plant and equipment. These are varied in nature and allow maintenance to be properly carried out. They can include infra-red cameras to pick up "hot spots" and avoid catastrophic failures, through to impedance meters and so on.

3. Business Information Technology

3.1 Overview – Business Objectives

This section of the Non Network Plan identifies and justifies capital expenditure associated with Business IT. There are five business objectives with which projects that have been identified in the Non Network Plan that have been aligned:

- **Improve Project Delivery** – *Implement systems and processes to reinforce end-end project delivery.*
- **Create Business Efficiency** – *Incrementally enhance existing core business processes to improve process efficiency.*
- **Manage Critical Knowledge** – *Enable the creation of and access to quality asset information and effective knowledge management in critical processes.*
- **Minimise Market Impacts & Optimise Network Performance** – *Implement decision support and planning tools to operate and manage the power system to minimise impact on energy market and participants; and deploy network technologies that are self-healing, modularised, easily configurable with reduced human intervention.*
- **Manage Existing Assets** – *Monitor reliability, availability and performance of existing assets and implement appropriate replacement, refurbishment, maintenance and operating strategies that support the HV network.*

The replacement of Business IT is required when the assets reach their end of life because they are unreliable, obsolete or unsupported by the manufacturer. By assessing these assets against a known set of triggers, a forecast can be developed for replacement, decommissioning or life extension of these assets. Additional expenditure may be required to meet new business needs.

3.2 Improve Project Delivery

Implement systems and processes to reinforce our end-to-end project and work delivery capability in order to manage efficiently and effectively network augmentation, refurbishment and maintenance workload.

Projects and Work Management Strategy (0474)

This strategy aims to guide the implementation of systems and processes to reinforce Powerlink's end-to-end project delivery capability, in order to cope with network augmentation, refurbishment and maintenance workload. It is closely aligned with the Business Objective to **Improve Project Delivery**.

Powerlink's project, task and work management vision is to be able to support the entire project, task and work management needs of the business while maintaining a full project lifecycle view from Project Estimation through to Project Completion. In order to achieve this vision, the following is required:

1. Automate the transfer of information between project estimation and project management systems to reduce data entry errors and enable re-estimation to over the lifetime of a project.

2. Improve project management information storage and reporting to improve the information recorded and to make this information more easily available to a wider audience.
3. Integrate project management and financials for non IT projects to remove the dual data entry, reduce the risk of error and to ensure that both systems remain current and in synchronisation.
4. Unify and improve resource planning and allocation across the organisation to provide a uniform view of resource demand and availability of projects, tasks and work.
5. Implement a common approach to enterprise task management to make it possible to track tasks across different groups and functions and to ensure that task execution and reporting is performed in a unify way across the organisation.

3.3 Create Business Efficiency

Incrementally enhance existing core business processes to improve process efficiency.

Business Support Process Strategy (0475)

This strategy guides the way in which IT applications service the business support process needs of Powerlink. Support processes are those that indirectly enable Powerlink's core goal of managing its transmission and communications networks and involve areas such as Human Resources, Finance and Procurement. The strategy is closely aligned with the Business Objective to **Create Business Efficiency**.

Powerlink's business support process vision for 2017 is to continue to improve the efficiency, cost performance, reliability and accountability of business support processes across the business. In order to achieve this vision, the following is required:

1. Centralise and formalise the way in which Powerlink manages contracts to allow consistent and reliable tracking of supplier compliance and performance while safeguarding key data.
2. Improve the employee information update process and interface to improve the accuracy of EEO information that Powerlink must regularly report on internally and to the government.
3. Improve the performance review tools to reduce the workload on HR managers, while also reducing the IT support requirements.
4. Implement a common approach to enterprise risk management to standardise the way in which risks are tracked, managed and reported. This will allow better decision making across the organisation and improvements to the way that projects are run.

IT Mobility Strategy (1067)

This strategy aims to guide the implementation of systems and processes to reinforce Powerlink's mobility capability. Mobility offers choice on how and where work can be performed and a successful strategy will improve worker efficiency, work accuracy and work conditions for staff. For this reason, the strategy is most closely aligned with the **Create Business Efficiency** business objective.

Powerlink's mobility vision for 2017 is to be able to make information available when and where it is needed, supported by end-user devices that enable real time data entry / viewing / interfacing into enterprise systems and applications. This will enable data capture at the point of change, reducing effort and possible errors introduced by manually recording information and entering at a later time. It will also enable increased timeliness of data capture, providing corporate-wide access to data that is closer to real-time.

In order to achieve this vision, the following is required:

1. Investigate and implement a secure mobile office capability to improve user efficiency and decision making ability, while ensuring that Powerlink data is not put at risk
2. Improve information recording and SAP, project and work order system access in the field to reduce data errors, improve field worker productivity and prevent jobs from stalling due to insufficient information availability
3. Implement a warehouse management solution to improve the quality of stock data recorded and reduce the time between the recording of warehouse and the updating of SAP, reducing dispatch and inventory errors

IT Communications Strategy (0152)

Powerlink's Communications Provisioning Strategy is focused on providing a unified, automated enterprise-class provisioning platform supporting its full range of communications provisioning requirements. As the strategy revolves around improvement of employee collaboration while enhancing the way in which existing IT assets are managed and utilised, it is most closely aligned with the **Create Business Efficiency** business objective.

Powerlink's communications provisioning vision for 2017 is to integrate communications with business process, providing a seamless infrastructure that moves with the employee, whether they are in the office, telecommuting from the field, or at home. In order to achieve this vision, the business needs to update IT network infrastructure at Virginia to ensure that it is capable of meeting the future performance and reliability needs of the business while network security and reducing the cost of network configuration, management and support.

3.4 Manage Critical Knowledge

Enable the creation of and access to quality asset information, and effective knowledge management that is embedded within critical processes.

Data Warehousing & BI Strategy & Roadmap (1033, 1031)

The Data Warehousing and Business Intelligence Strategy aims to ensure Powerlink has the capability to report, query and analyse key data in a manner the meets the growing and varied needs of the business.

Powerlink's Data Warehousing and Business Intelligence Strategy vision for 2017 is to provide good quality, traceable data stored only once in a well structured and accessible architecture. In order to achieve this vision, it is recommended that the business –

1. Implement a view of network and asset data that is integrated across all relevant applications and datasets to provide an integrated view / portal of network and asset data that spans across all relevant applications and datasets. This will improve the

organisation's ability to take a lifecycle approach to the acquisition, operation and maintenance of its assets, eventually leading to better asset performance and forced outage rates.

2. Develops and improves its capability in the areas of:
    - Change Data Capture (CDC)
    - Data profiling and cleansing
    - Data quality monitoring
    - Business Activity Monitoring (BAM)
    - Data Extract, Transform & Load (ETL)

    This will improve the organisation's ability to improve the quality of its data and ensure that the integrity of data is maintained when being migrated or extracted.

3. Develops and implement Corporate Reporting and Analysis capability to deliver a range of corporate reporting and analytic solutions which includes, but is not limited to:
    - Management reporting
    - ITOMS reporting
    - HR Reporting
    - Monthly Market Reporting

    This will improve the information available for decision-making purposes across the organisation.

3.5 Minimise Market Impacts & Optimise Network Performance

Provide decision support and planning tools to operate and manage the power system effectively in order to minimise the impact on the energy market and its participants. Optimise network performance through deployment of network technologies that are self-healing, modularised, and easily configurable.

Applications Network and Asset Management Strategy (0467)

One of Powerlink's core business objectives is to manage network assets through their entire life cycle, from concept to disposal. This involves planning, development, operation and maintenance of the transmission network, as well as monitoring the reliability, availability and performance of existing assets to support continuous improvement of these activities. It is closely aligned with the both **Minimise Market Impacts & Optimise Network Performance** and **Manage Existing Assets** business objectives.

Powerlink's IT network and asset management vision for 2017 is to provide standardised, integrated and cost effective IT applications to support Powerlink's key activities of Network Service Delivery – Planning, Delivery, Operations and Maintenance. Specifically:

- Networks designs will be transferred in an efficient and error-free way into a centralised network information repository
- All planned outages will be managed in a way that integrates information from existing work management systems, AEMO outage schedulers and Powerlink's network model application.
- Powerlink will have a consistent view of network data related to a forced outage

- Asset condition and performance information will be collected, reported and analysed in a way that will support reliability centred maintenance
- Network design and configuration data will be efficiently captured from its sources and stored in appropriate databases

In order to achieve this vision, it is required to:

1. Review and replace (or augment) the network design tools in use to more effectively capture asset master data and make it available for reuse by other applications. This will reduce design effort and errors due to data duplication, and enable a wider range of asset master data to be searched and accessed.
2. Improve planned outage management to provide greater certainty that the execution of outages will flow directly from longer-term outage plans, and provide tools for the calculation of outage impacts and the safe and efficient execution of switching. This will improve the planning and delivery of Powerlink's projects and maintenance work, and enable more reliable coordination of outages with customers and other NEM participants.
3. Improve collection of outage information and provide better network event management. This will enhance the organisation's understanding of the causes and impact of forced outages, and enable more efficient reporting of performance statistics.
4. Improve the collection, reporting and analysis of asset condition and performance information to support reliability centred maintenance. This will contribute to better asset acquisition and design practices.
5. Ensure that asset design and configuration data is stored consistently and correctly to ensure that data duplication is minimised, that there is a single source of truth for each data type and that information about the source and age of data is tracked. This will lead to more certainty about the correctness of network and asset data, improving Powerlink's ability to monitor and maintain the network.

3.6 Manage Existing Assets

Monitor the reliability, availability and performance of existing assets and implement appropriate replacements, refurbishment, maintenance and operating strategies to support improved performance.

Infrastructure Lifecycle Management (0153)

The Infrastructure Lifecycle Management Strategy aims to ensure Powerlink effectively manages the costs and risks associated with its Information Technology (IT) Infrastructure by proactively identifying, planning and prioritising upgrades, modernisation and retirements in its IT Infrastructure before it reaches the crisis stage.

The aims of the strategy will be achieved by ensuring upgrades, migrations, modernisations and retirements are completed before the situation reaches the crisis stage. The strategy aligns with the organisation's business objective to **Manage Existing Assets.**

Powerlink's Infrastructure Lifecycle Management vision for 2017 is to ensure all IT assets to perform at optimal levels during their lifecycle, reducing service disruptions and losses due

to failure. In order to achieve this vision, that the business needs to proactively manage Hardware Lifecycles through initiatives such as:

1. Data Centre Upgrade to ensure the stable and reliable operation on a 24 x 7 basis
2. Data Centre Replacement Program for those network assets that have reached their economic end of life, and no longer perform at the minimum required standard
3. Desktop Replacement Program for those desktop assets (laptops, computers, printers) that have reached their economic end of life, and no longer perform at the minimum required standard.

Application Portfolio Lifecycle Management Strategy (0477)

The Application Portfolio Lifecycle Management Strategy aims to ensure Powerlink effectively manages the costs and risks associated with its application portfolio by proactively identifying, planning and prioritising upgrades, migrations, modernisation and retirements in its application before they are completely unsupportable whilst still in service, or have failed, and uncontrolled replacements are required. The strategy aligns with the organisation's business objective to **Manage Existing Assets.**

Powerlink's Application Portfolio Lifecycle Management vision for 2017 is to ensure all IT applications perform at optimal levels during their lifecycle and retire applications that meet business needs before they negatively impact business productivity and performance. In order to achieve this vision, it is recommended that the business proactively manage its Application Portfolio Lifecycle by adopting an annual review and evaluation process that assesses how the current portfolio fulfils the business and technology requirements.

3.7 IT Asset Management - Business IT Process for Replacement

Overview

This section covers the periodic replacement of Business IT infrastructure items broken down into the following categories with the corresponding *expected* technical life:

Table 1 – Business IT Infrastructure Replacement Periods

Item	Replacement Period
Desktops	3 Year
Laptops	3 Year
Monitors	3 Year
Printers	3 Year
Servers	4 Year
Routers	4 Year
Switches	4 Year

Age is not the determining factor in the replacement of an asset. The following criteria would constitute when an IT asset should be replaced either prior to or following its scheduled retirement date and can include:

- A Condition Assessment determines that the asset is not fit for purpose.
- The manufacturer no longer supports the asset.
- The cost of maintenance exceeds the cost of replacing equipment.
- The cost effectiveness of extending warranty if equipment is deemed to be unserviceable.
- A server is no longer able to support the current operating system / database or application due to processor or memory constraints.
- A desktop is unable to support the current operating system or application due to processor or memory constraints.
- Network infrastructure (e.g. routers and switches) is unable to be upgraded to the latest accepted Powerlink OS.

Drivers and Criteria

The underlying driver for IT projects required in the future is the need to maintain manageable, stable, secure and effective applications architecture.

Information Technology is a dynamic and ever-changing environment with evolution in technology occurring on a regular basis. For long-term forecasting, it is not possible to predict with absolute certainty emerging new technologies that Powerlink will be reliant on for achieving its business outcomes.

This Non Network Plan is based on Powerlink's business drivers and currently available technologies. Each project description includes a high-level cost estimate. All the projects are required to meet the objectives described in this plan.

Where available, a project-by-project forecast has been developed. Where enough detail on projects is not available or the project is too far into the future but is known on a generic basis, a suitable analogue has been used – for example, the price for the MSOffice environment upgrade from a previous upgrade has been used for long term future planning purposes. It is noted that the rate of change of IT equipment is high, however, this plan provides a level of security in the overall funding requirements over the period.

3.8 Committed Business IT Projects

The Business IT projects that are committed are listed in Table 2 – Committed Business IT Capital Projects with spend in the next regulatory period.

Table 2 – Committed Business IT Capital Projects with spend in next period

Project Number	Project Title	Approved Commissioning Date
CP.97060	Improve Project Integration and Reporting	Dec-12
CP.97068	Risk Management Tool	Dec-12
CP.96928	Digital Network Connectivity Database (Replace CNDB)	June-13

CP.97055	Ratings Calculation Applications	April-13
CP.96937	Contract Management System (Replace CAPS)	Feb-13
CP.96936	Network Fault and Incident Management	Feb-13

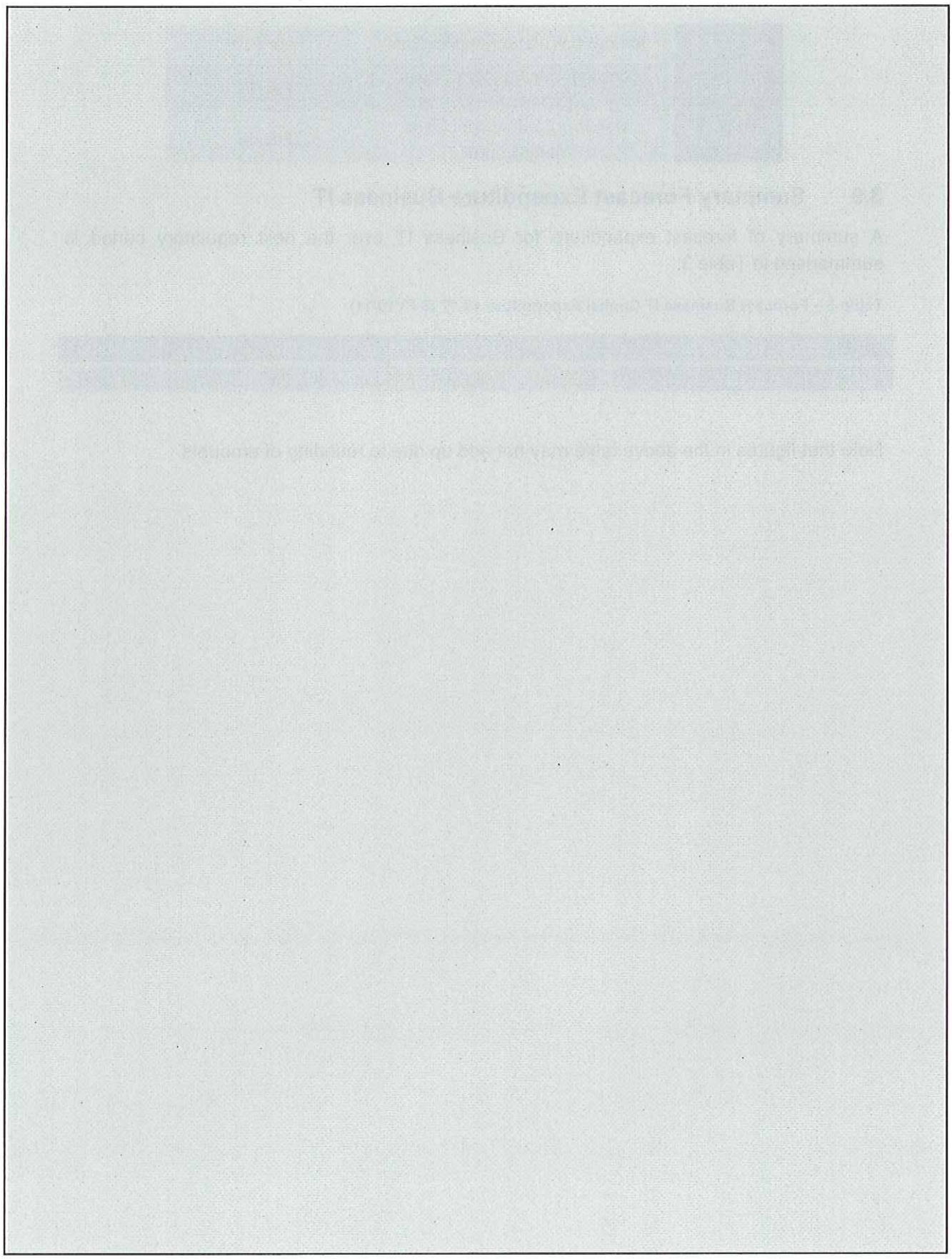
3.9 Summary Forecast Expenditure Business IT

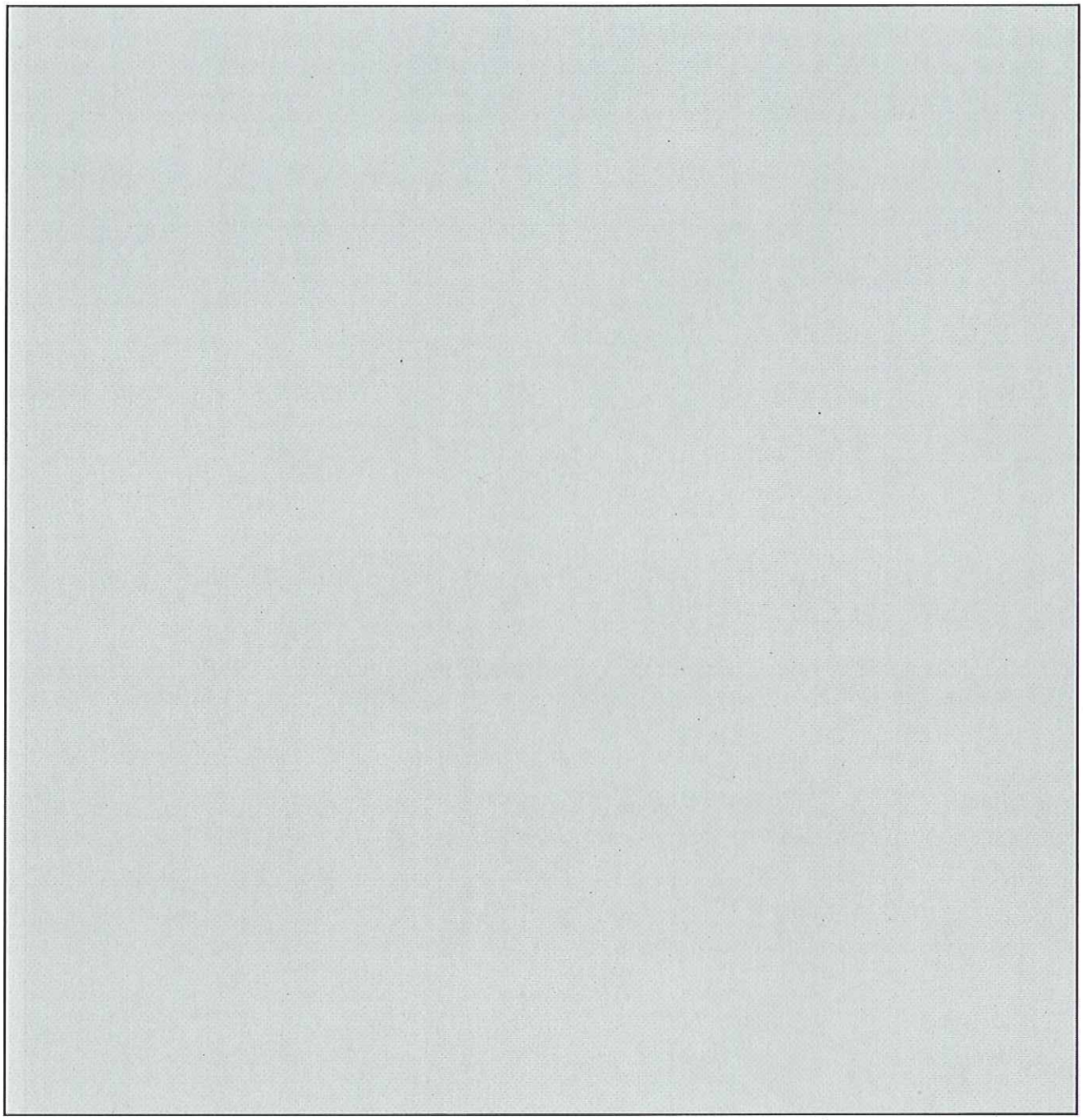
A summary of forecast expenditure for Business IT over the next regulatory period is summarised in Table 3:

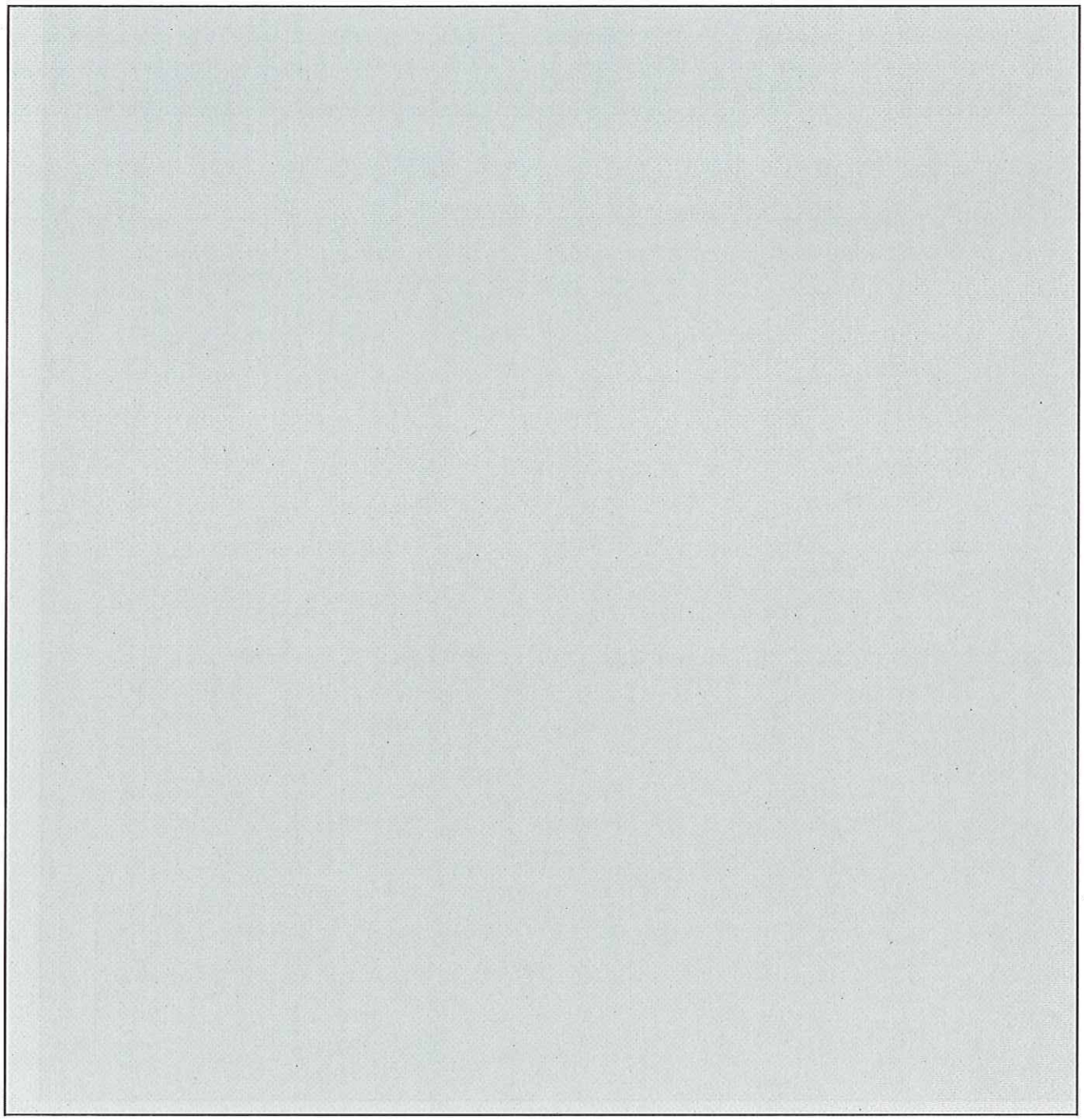
Table 3 – Forecast Business IT Capital Expenditure 13-17 ($ FY10/11)

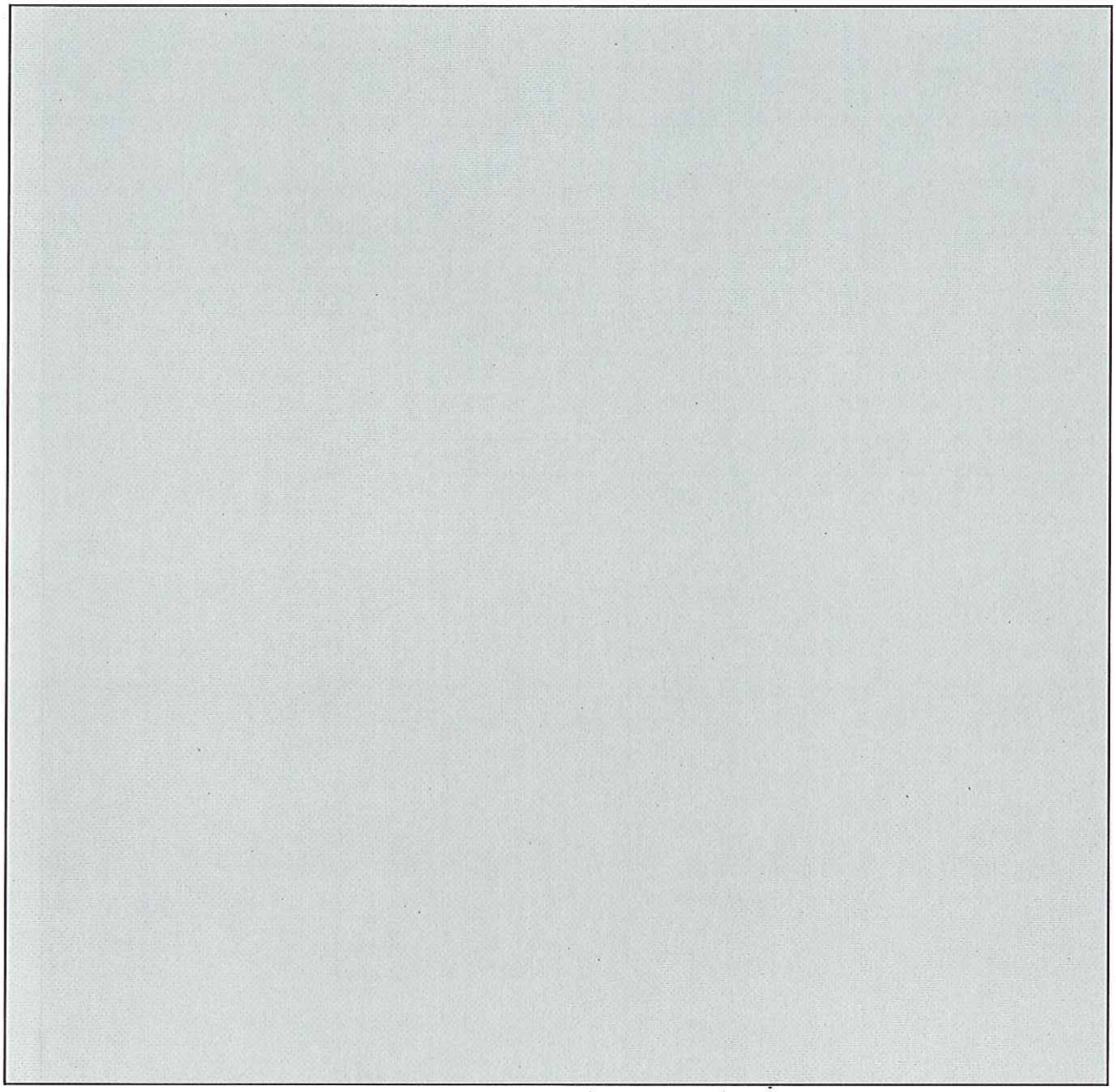
Forecast Expenditure	12/13	13/14	14/15	15/16	16/17	Totals
Totals	$15.4m	$14.6m	$15.7m	$15.2m	$15.3m	$76.1m

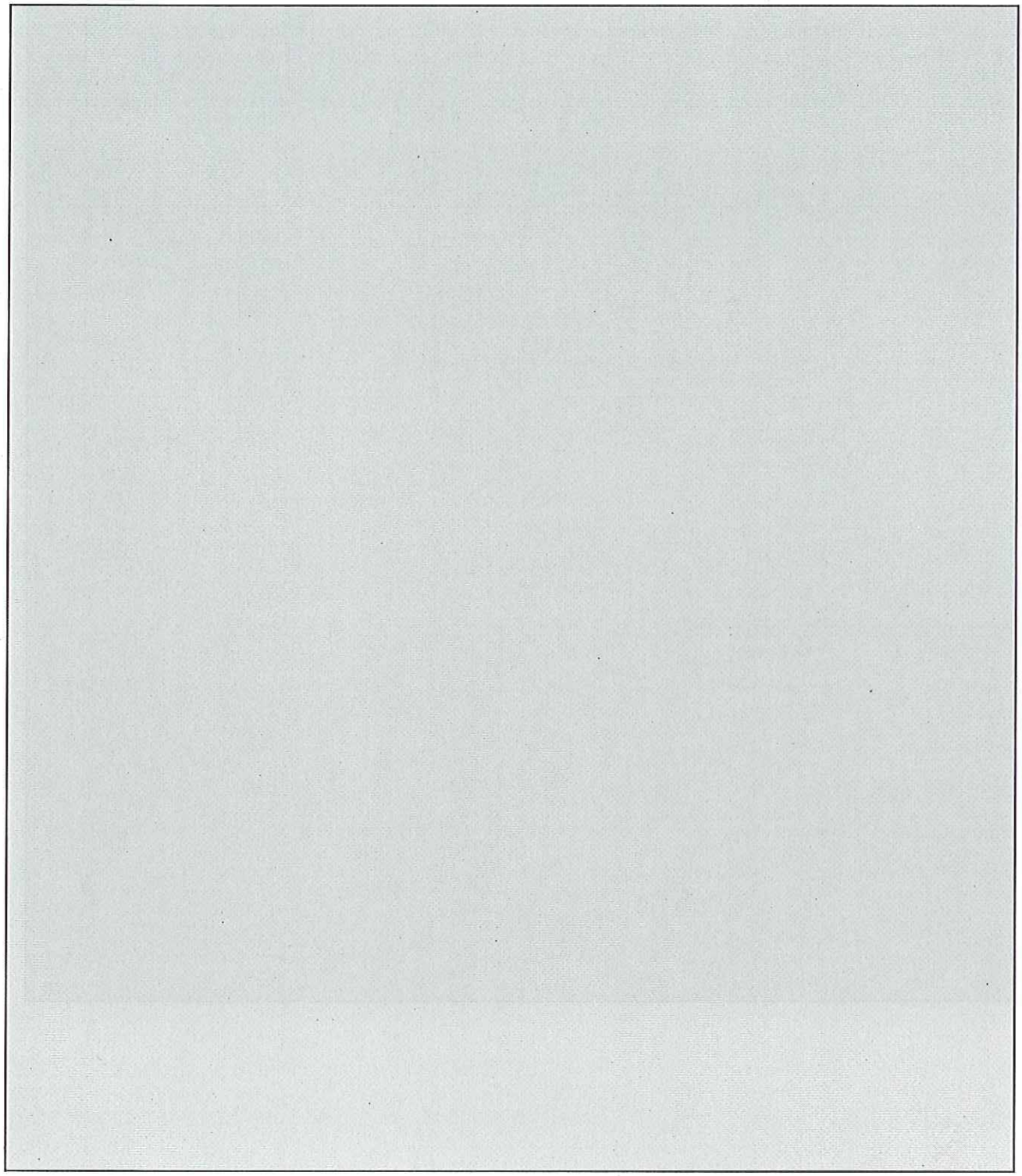
Note that figures in the above table may not add up due to rounding of amounts.

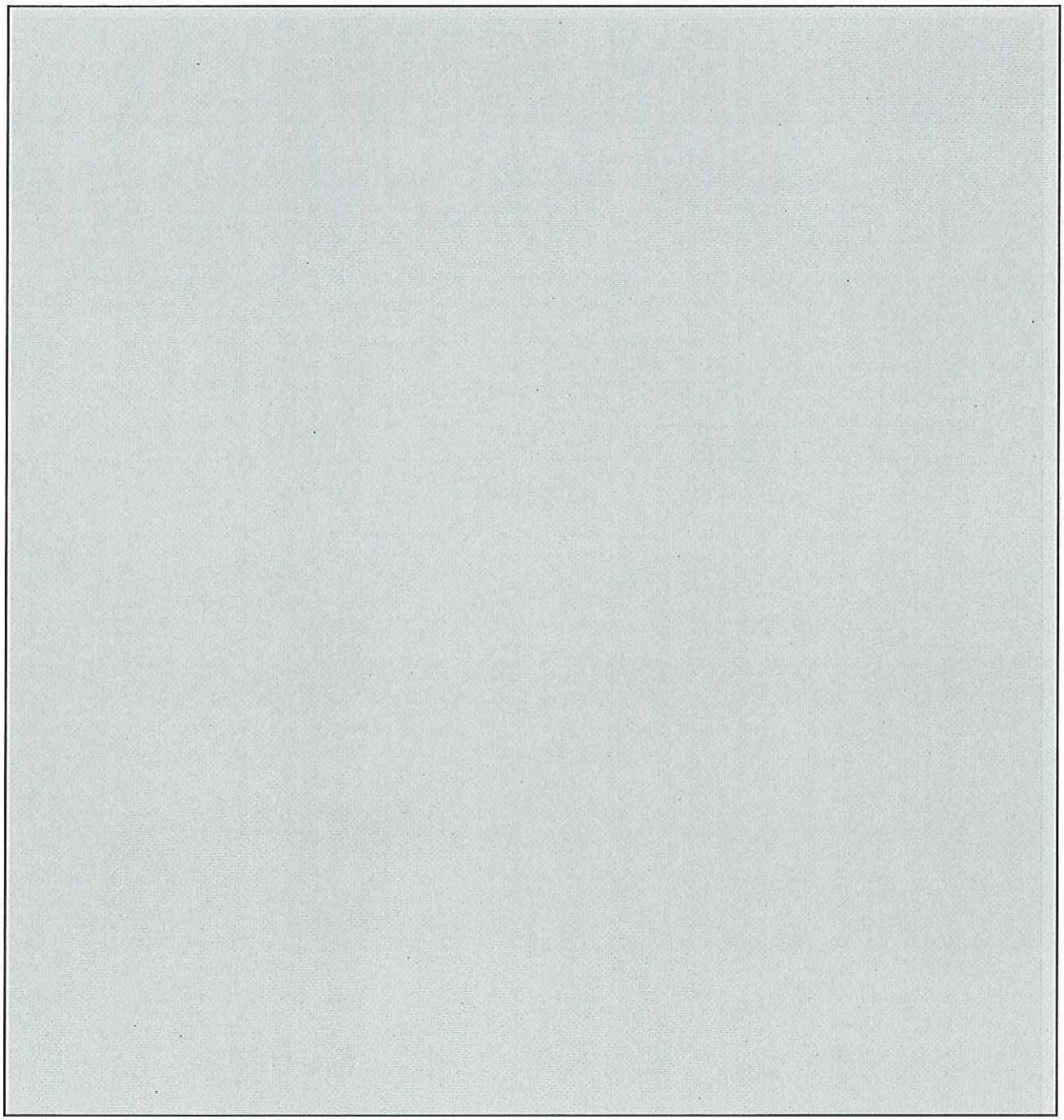


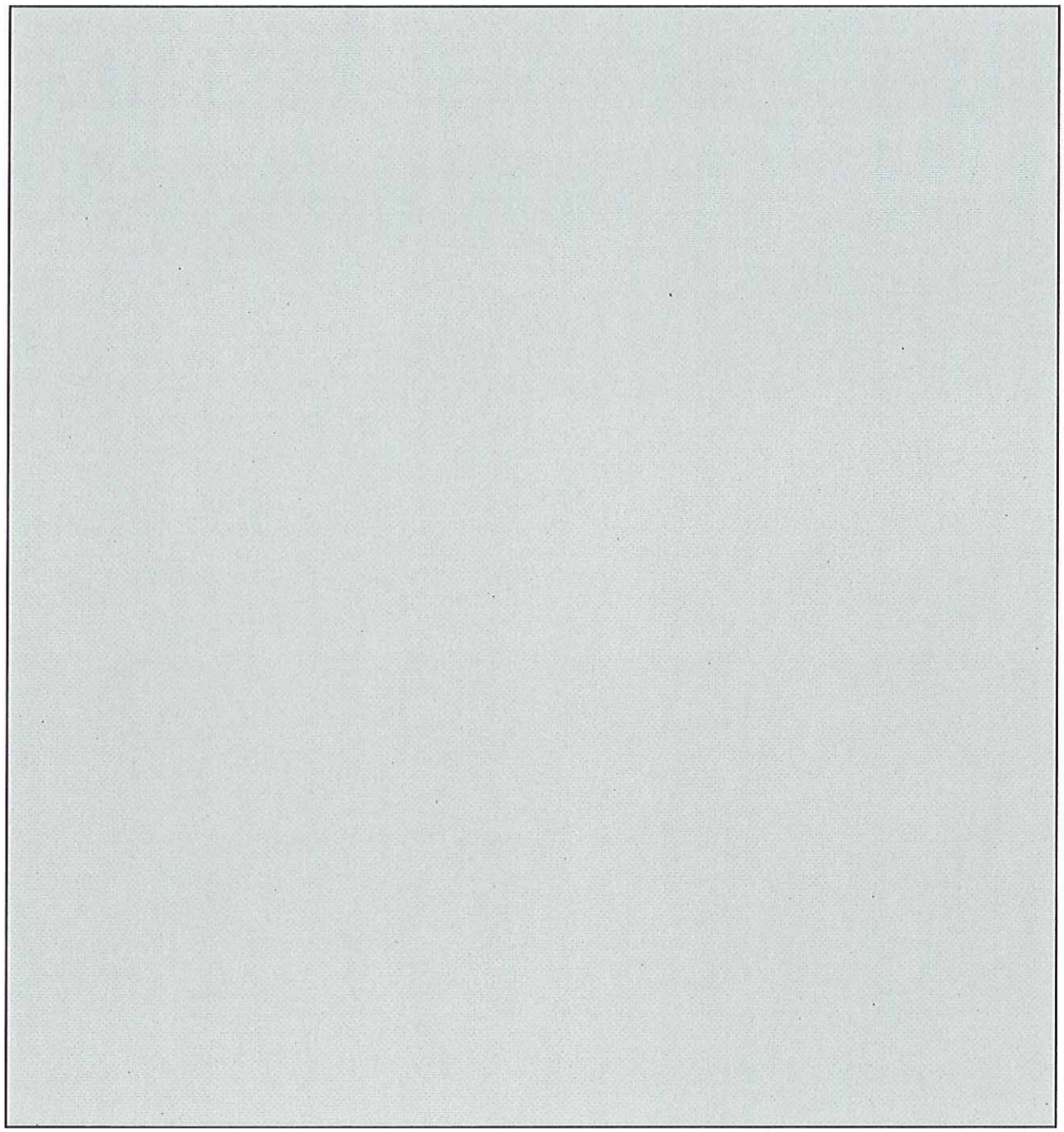


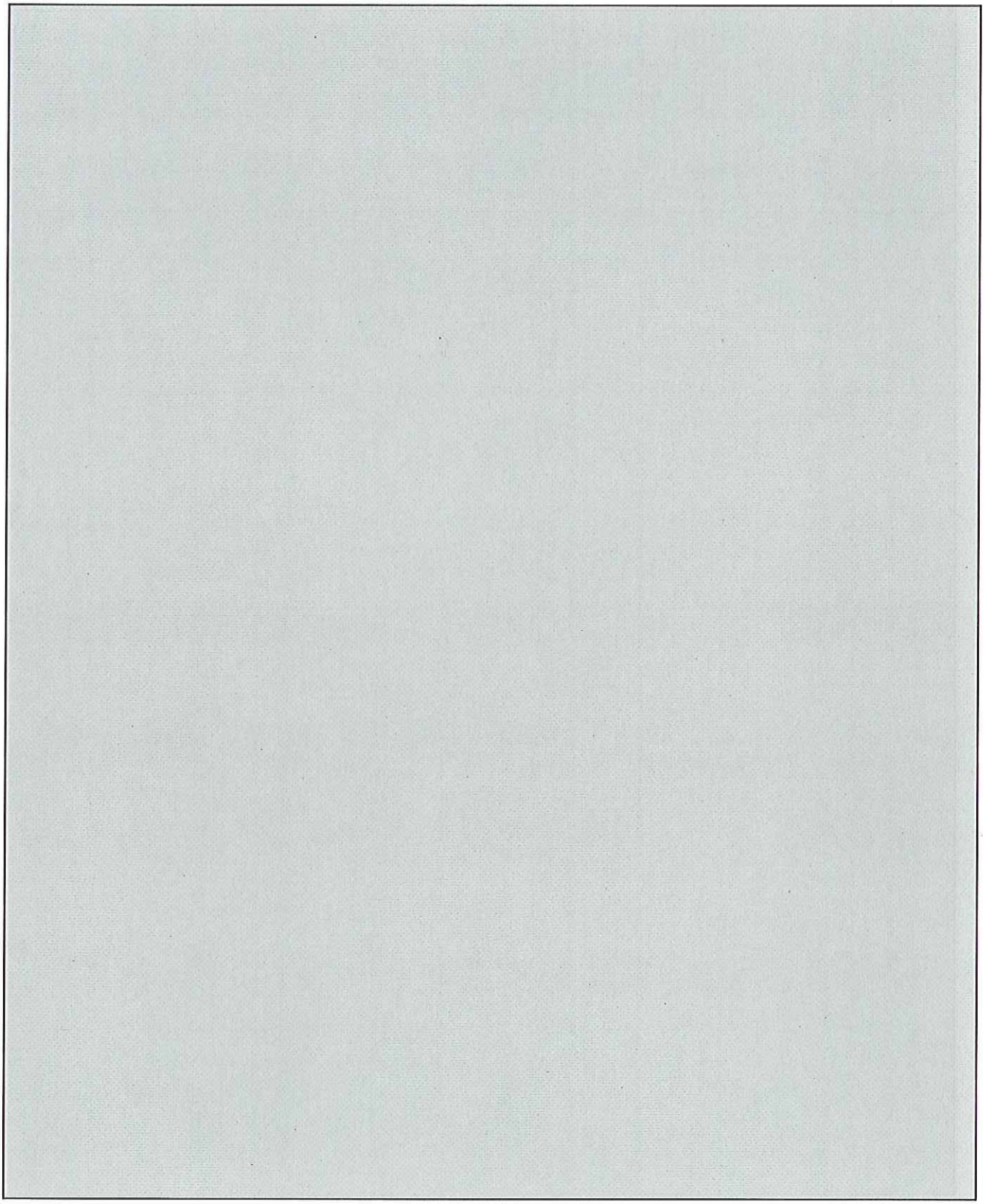


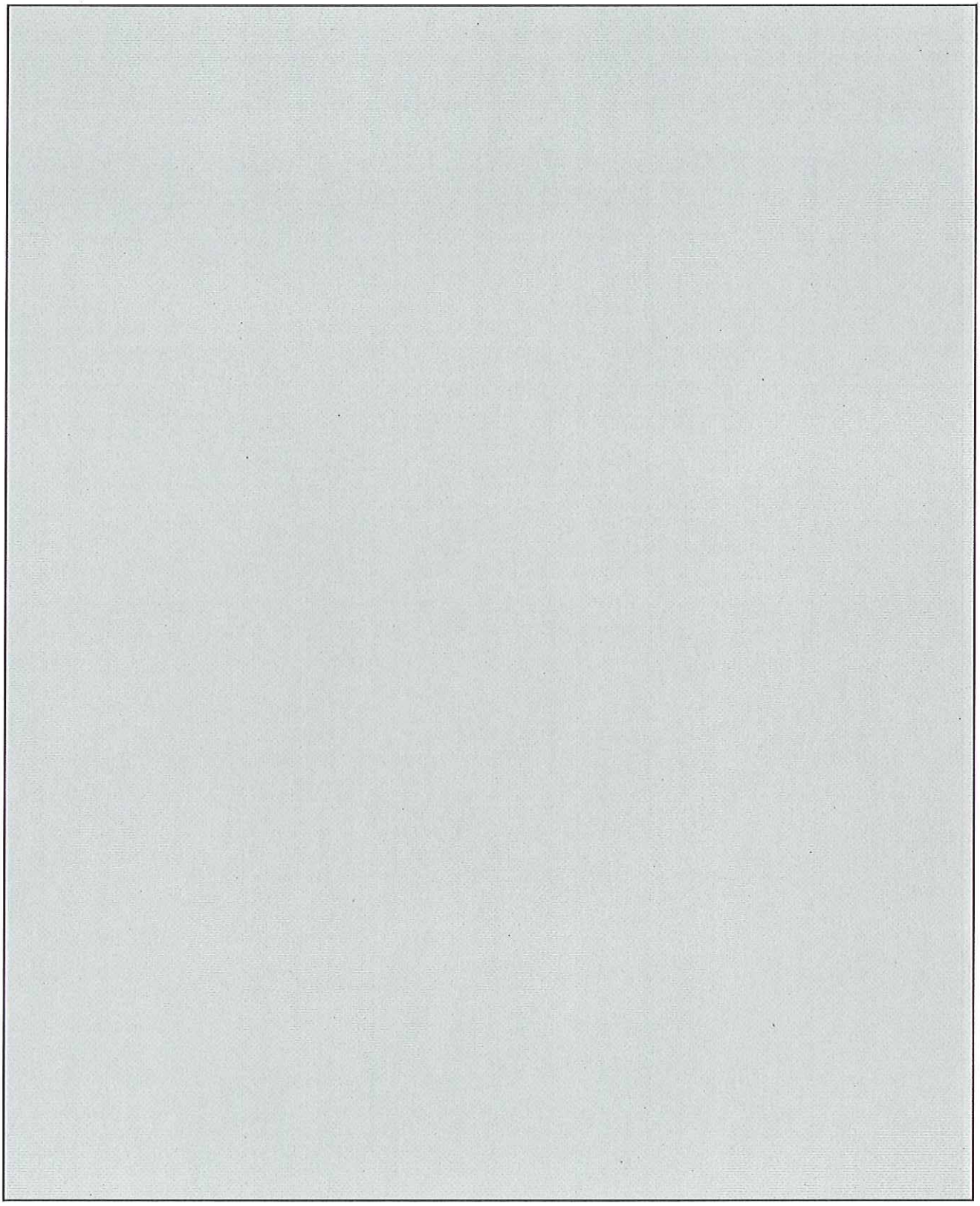


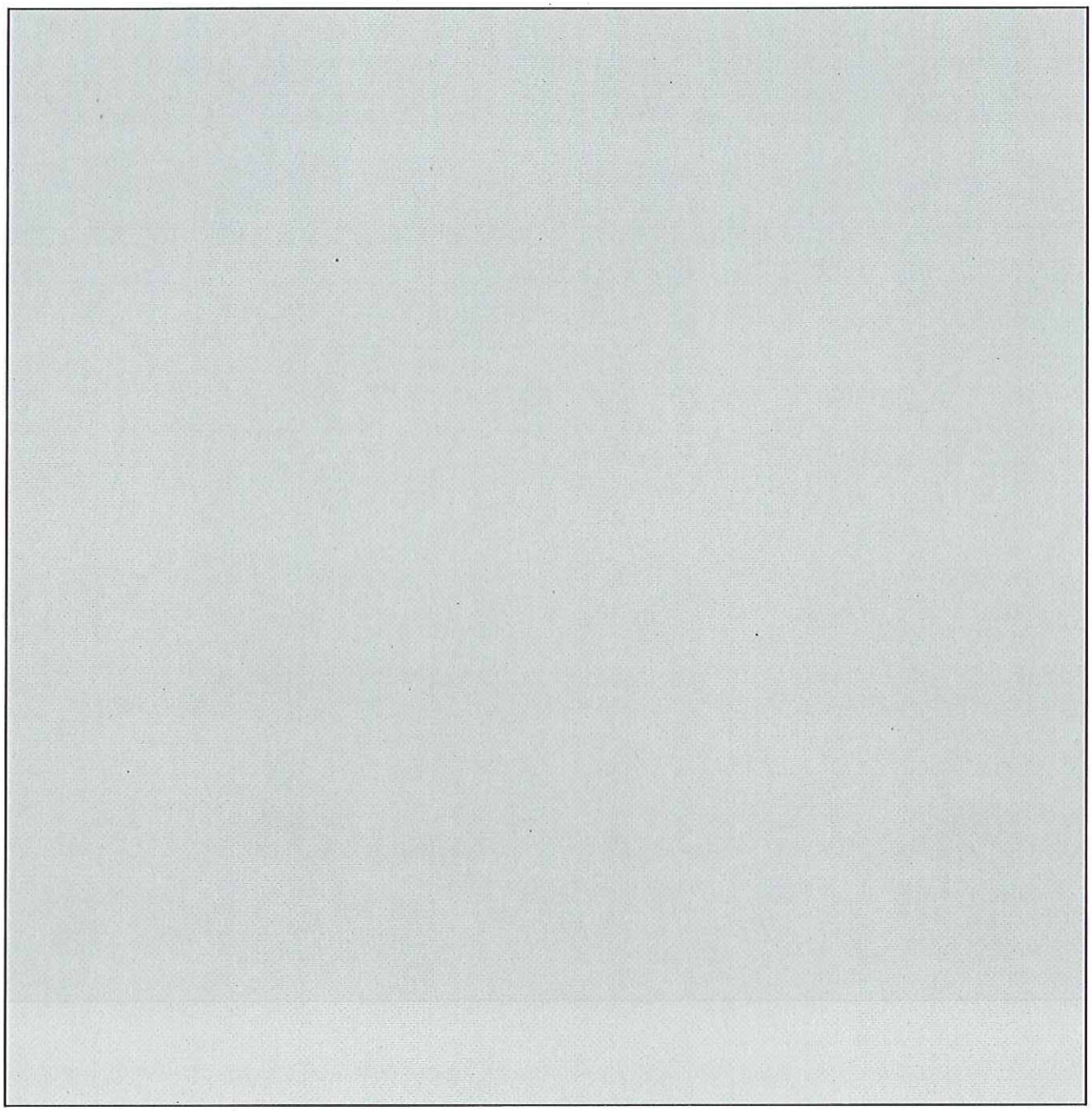


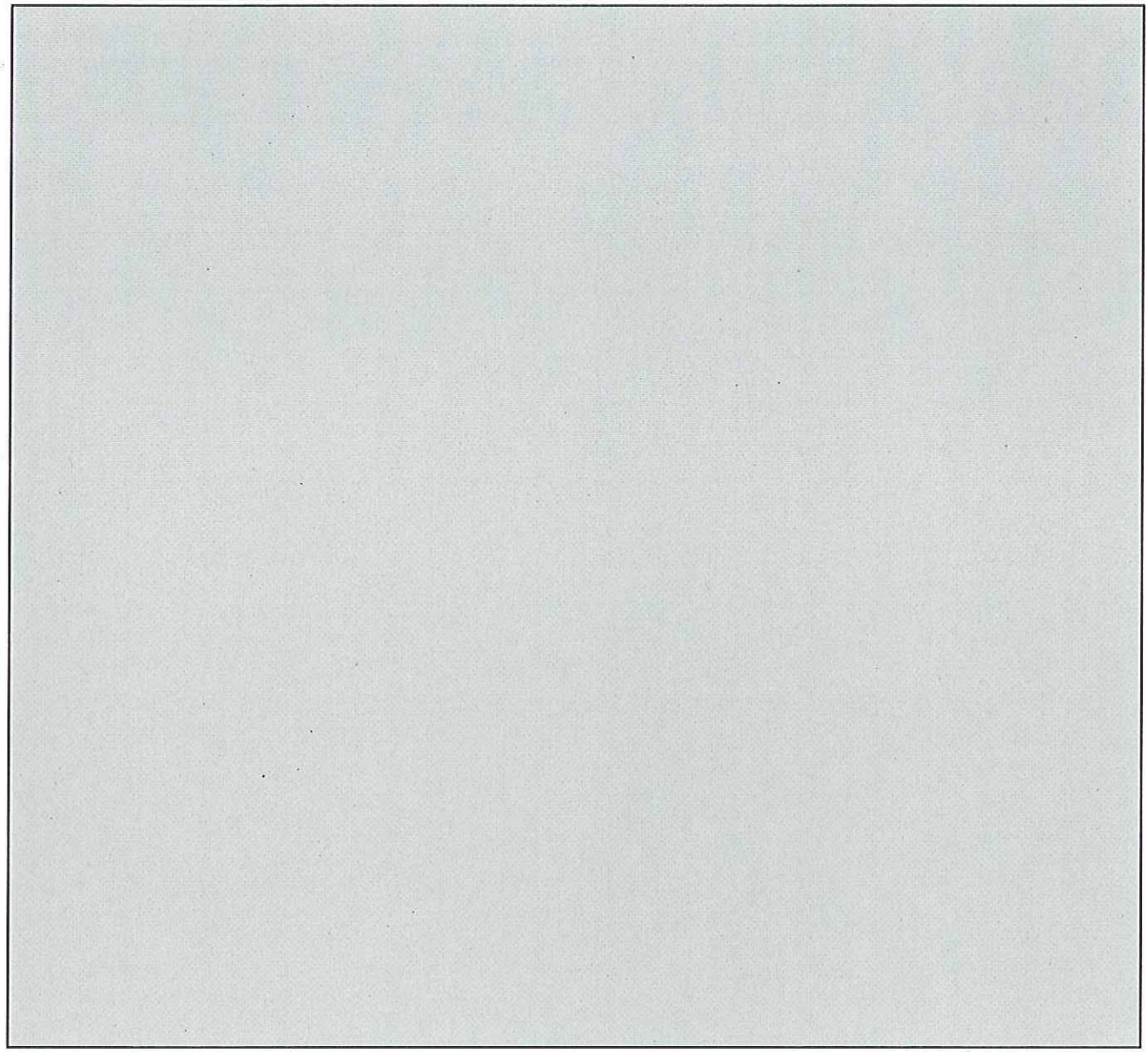


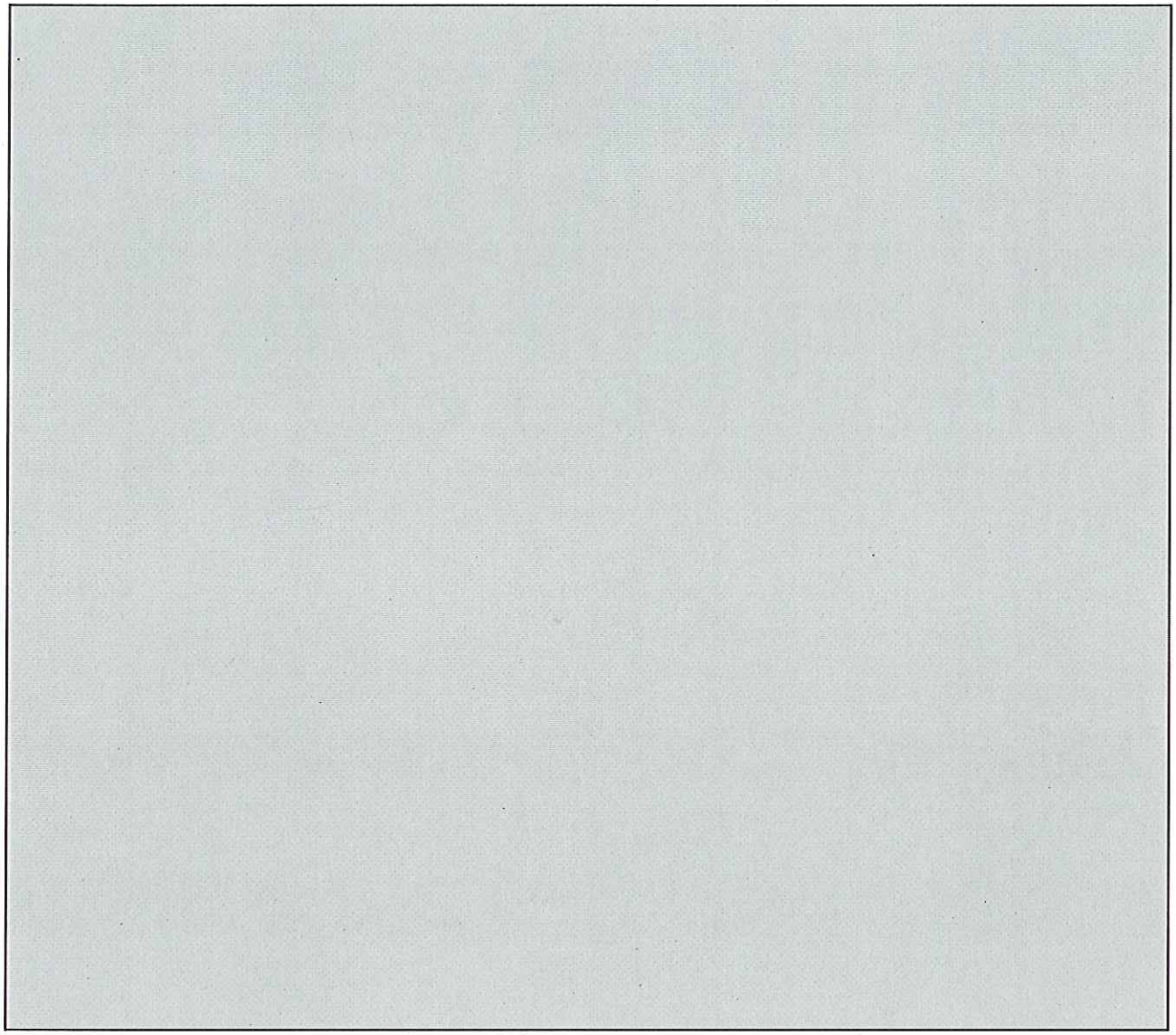


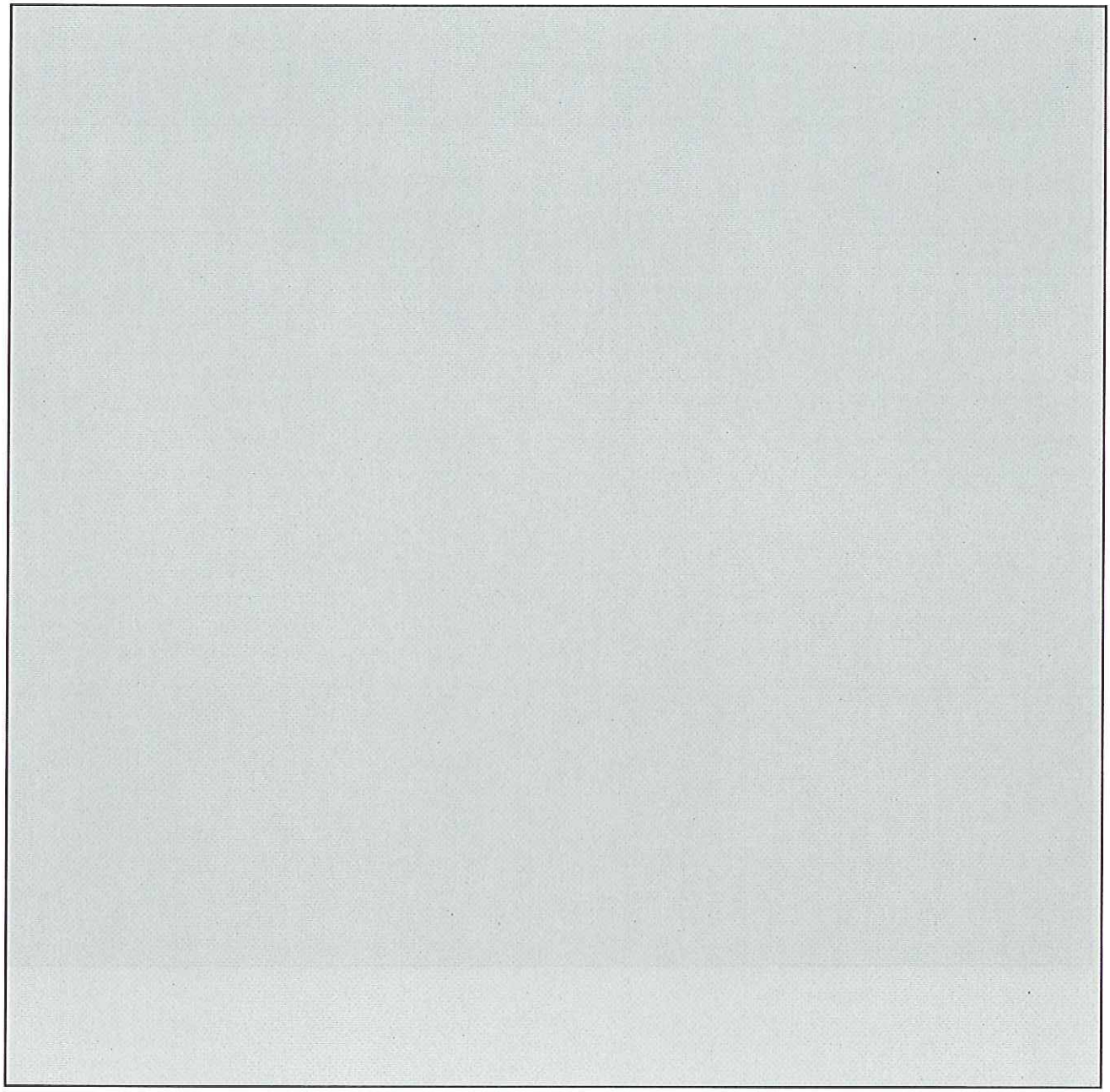


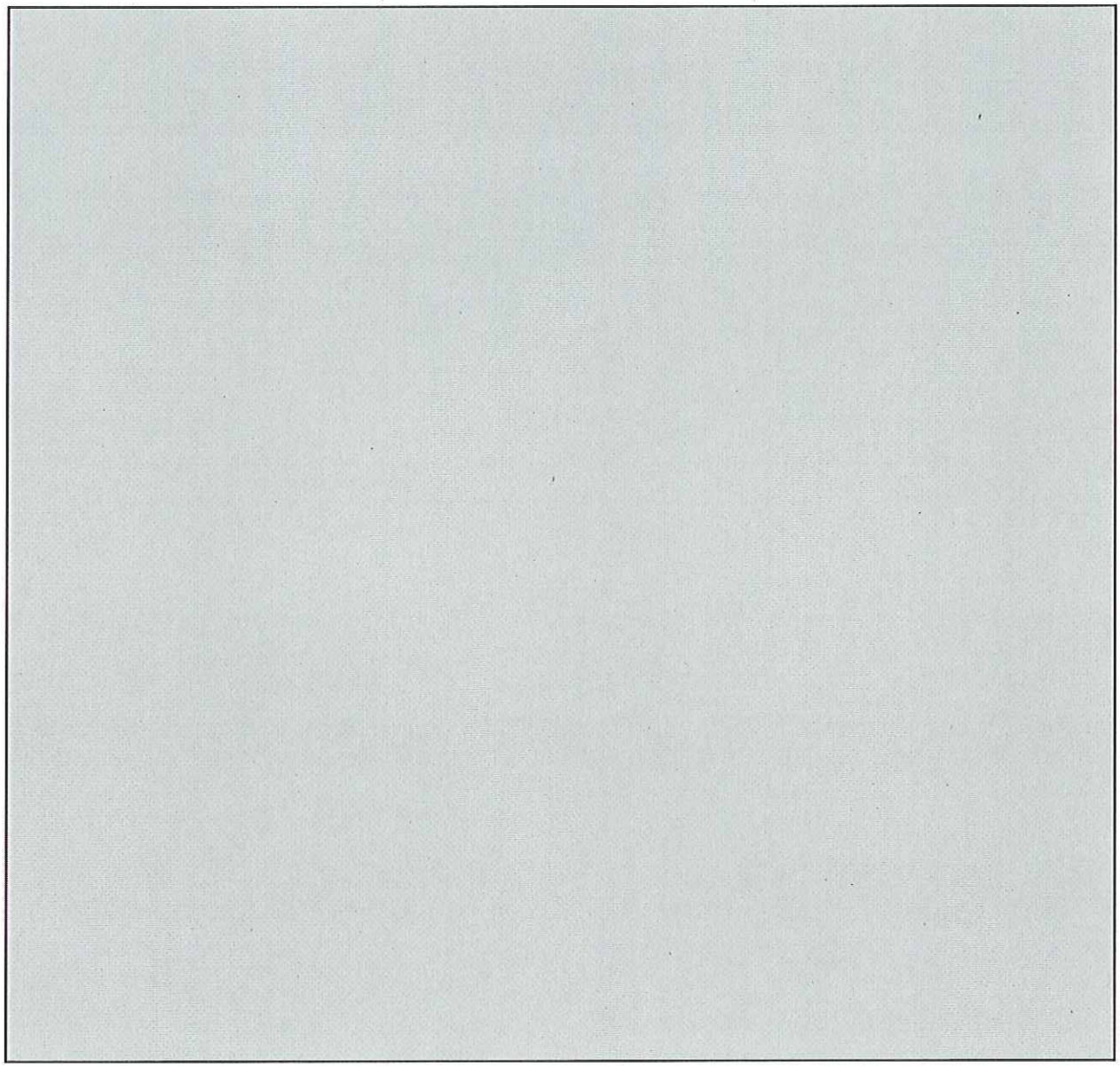


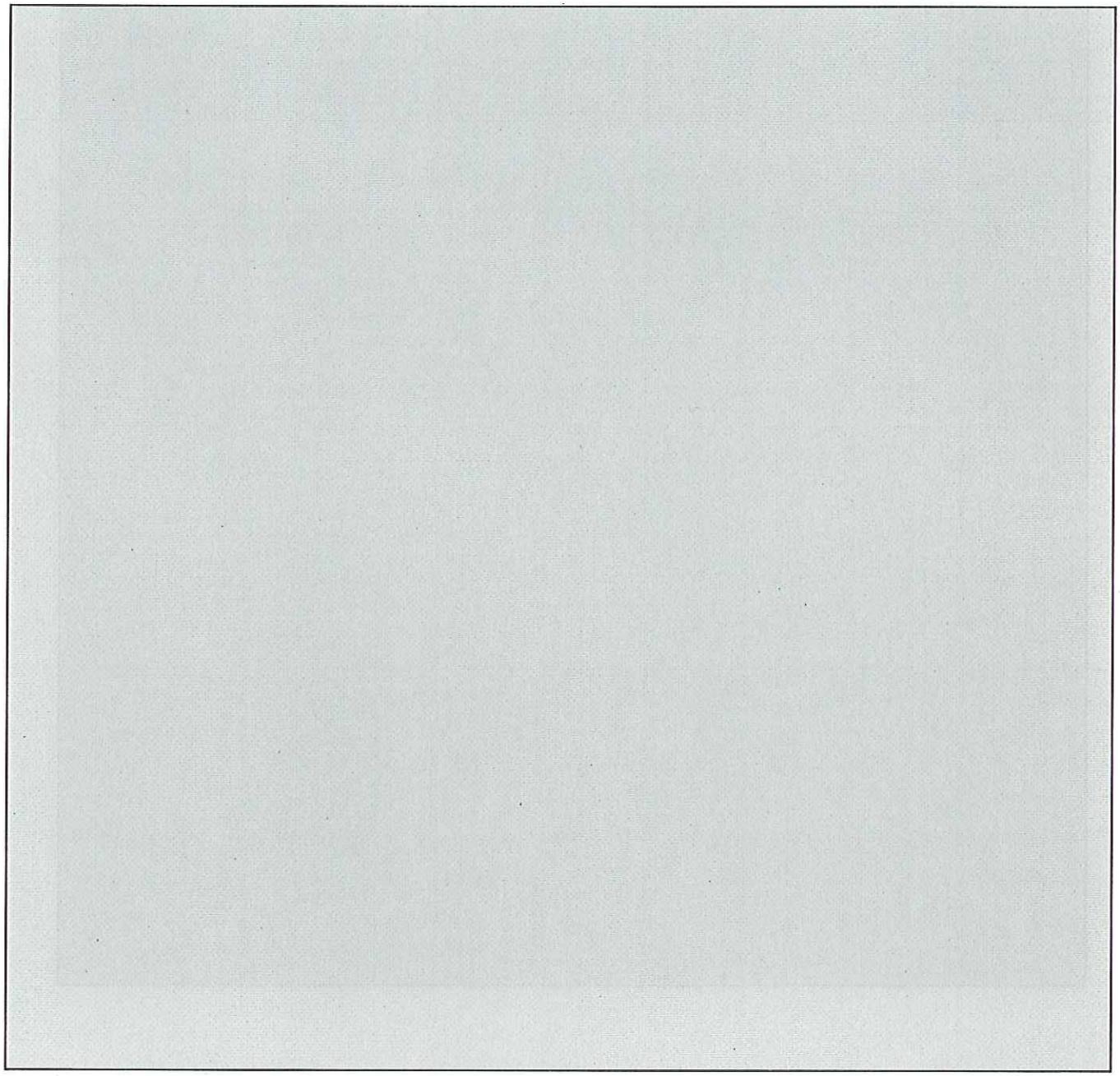


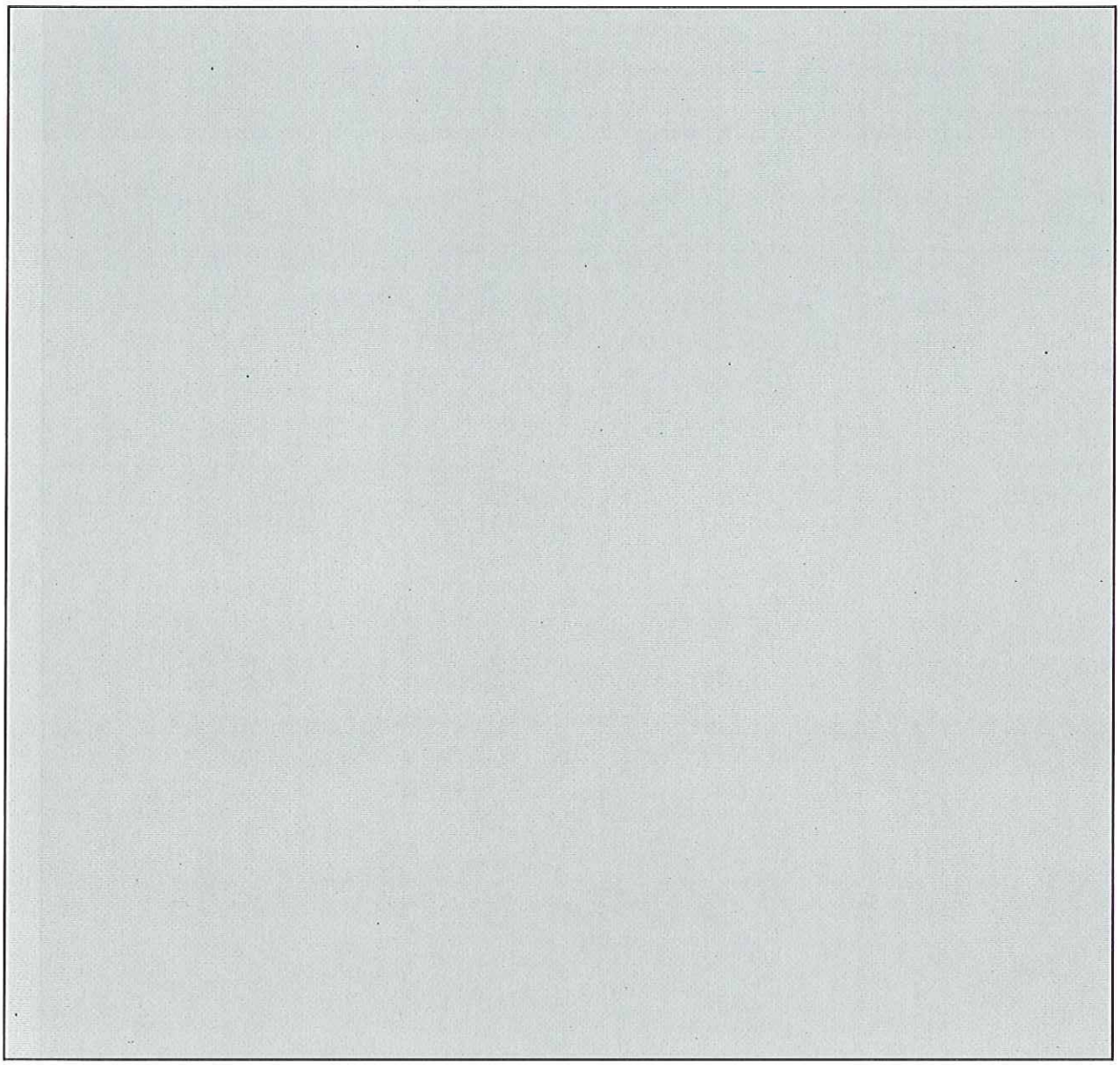


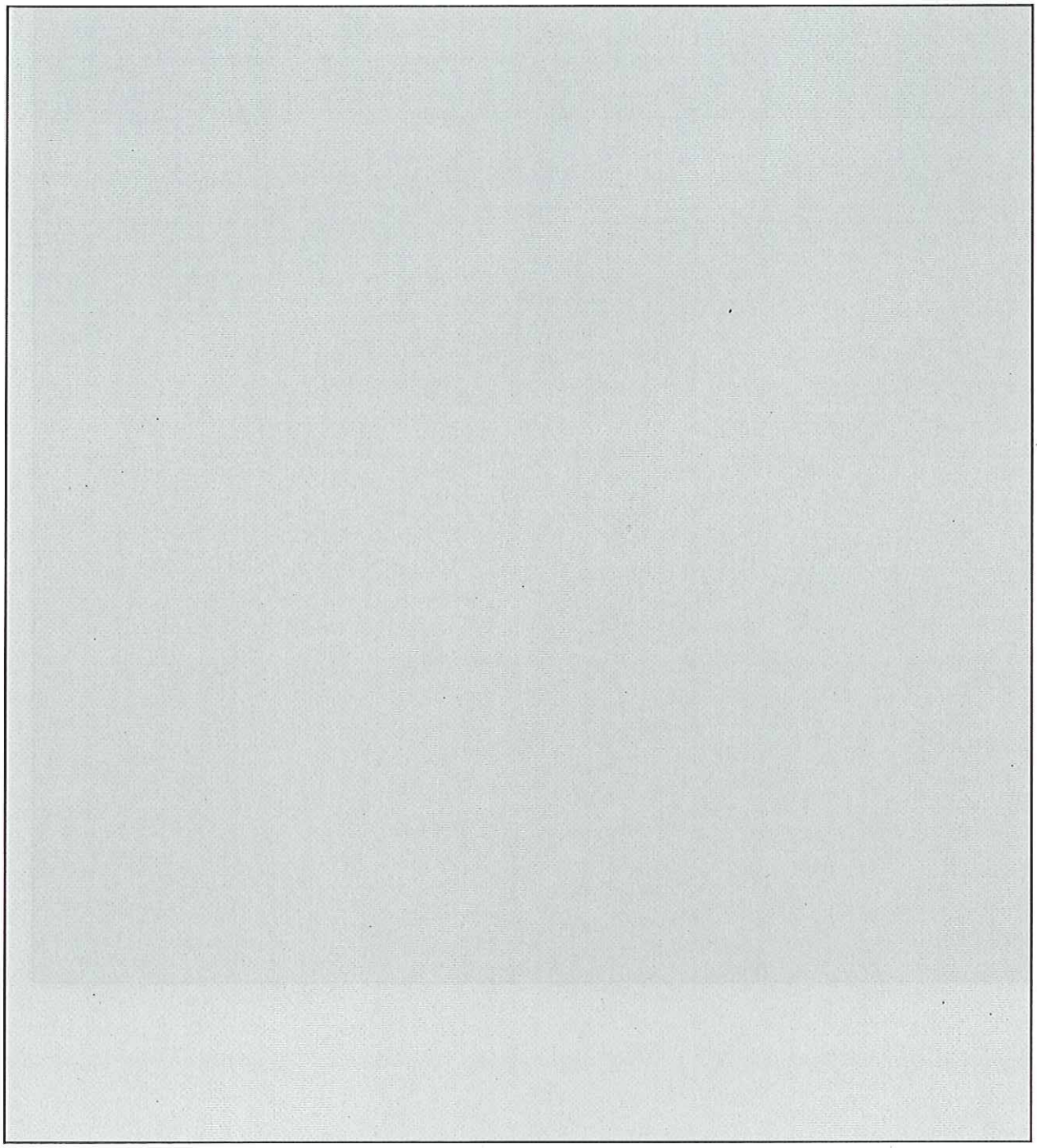


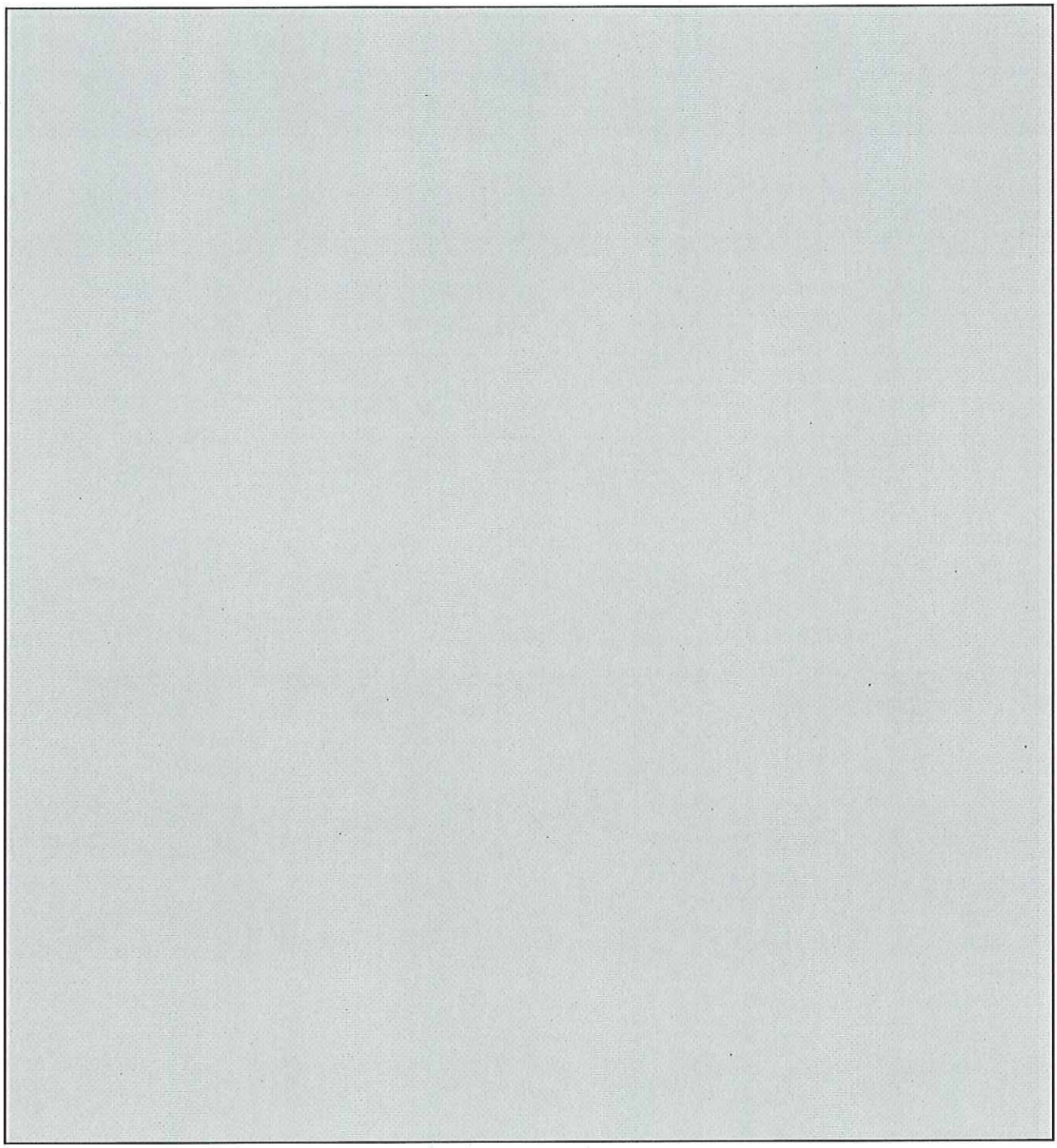


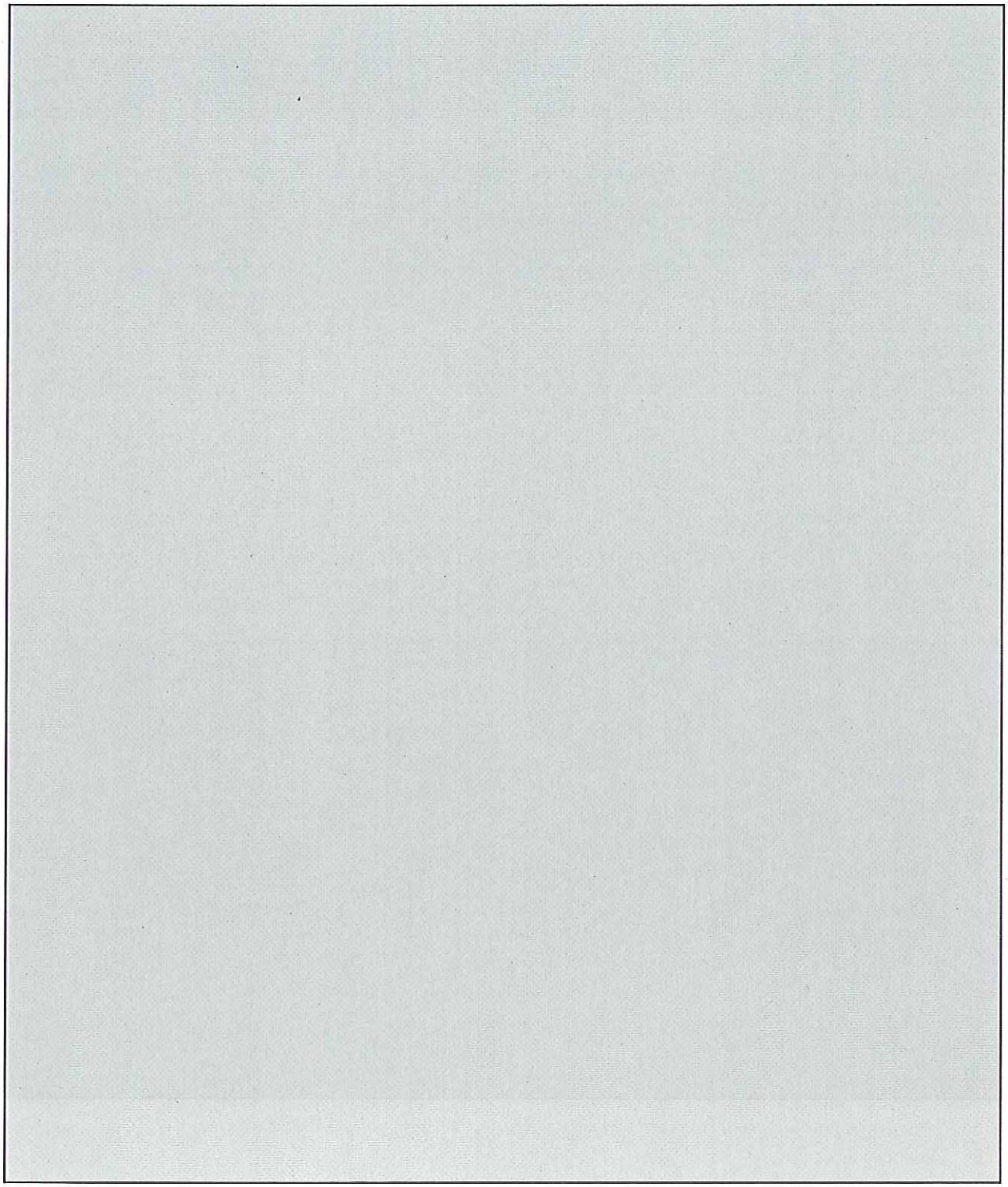


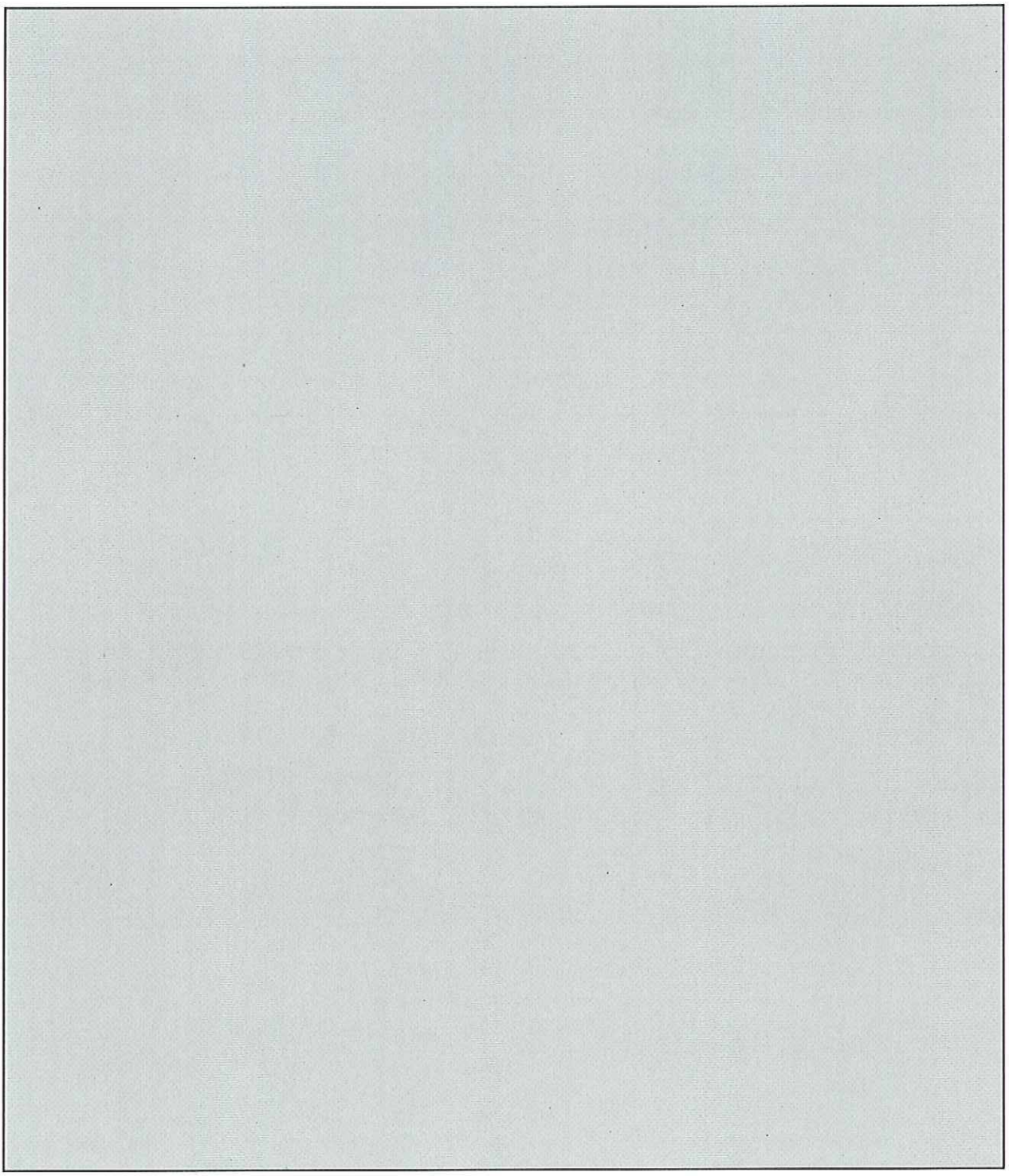


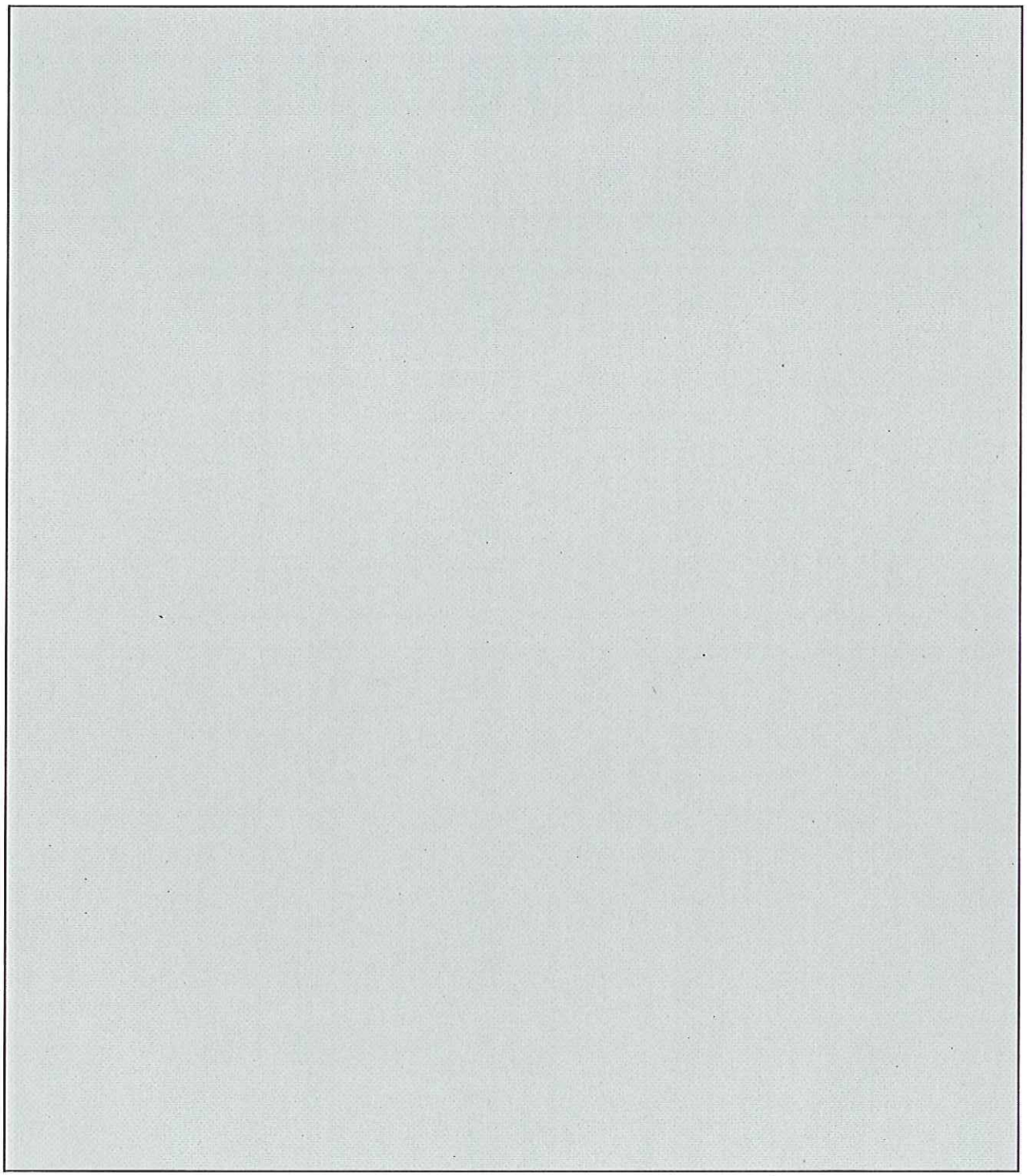


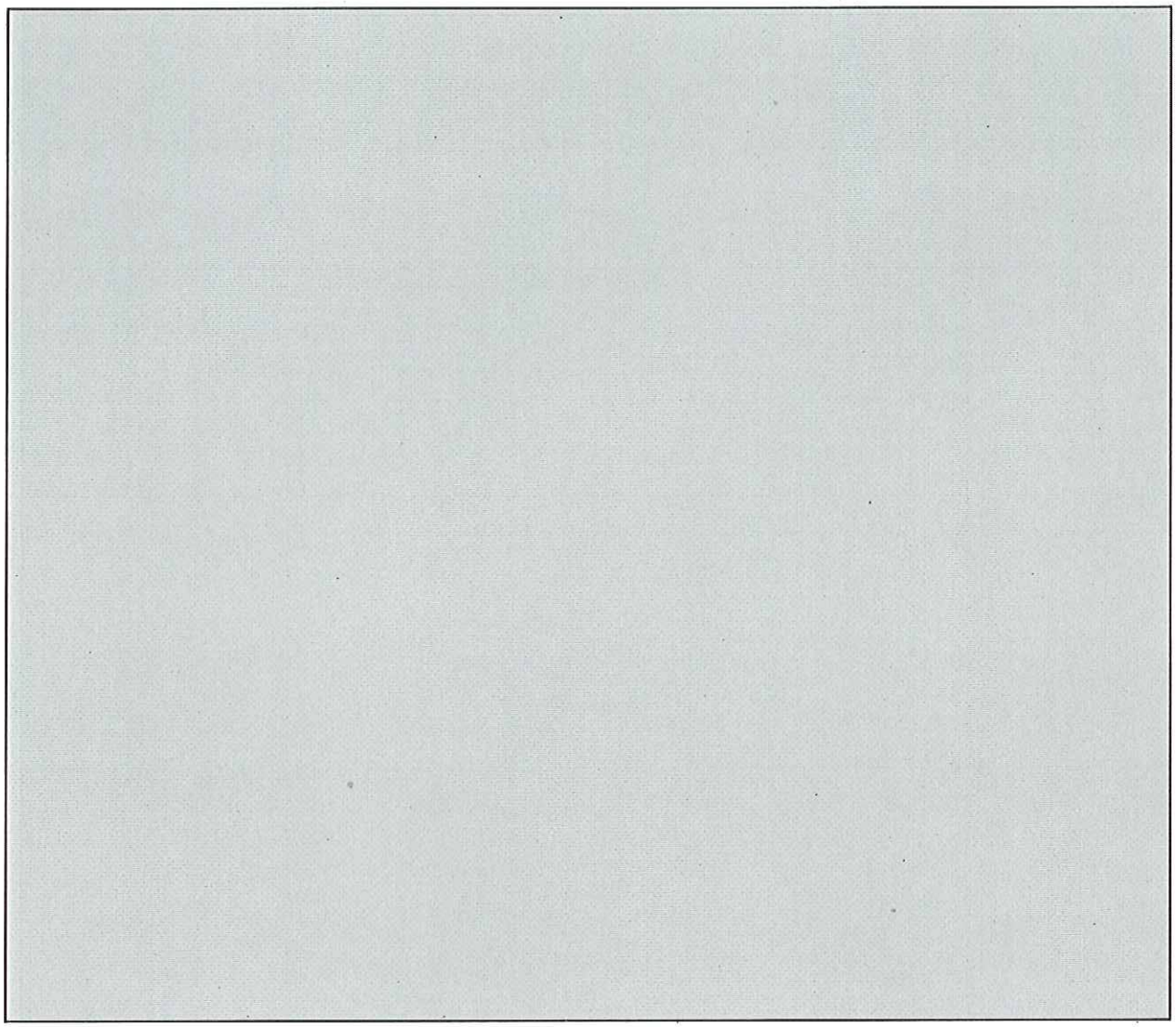


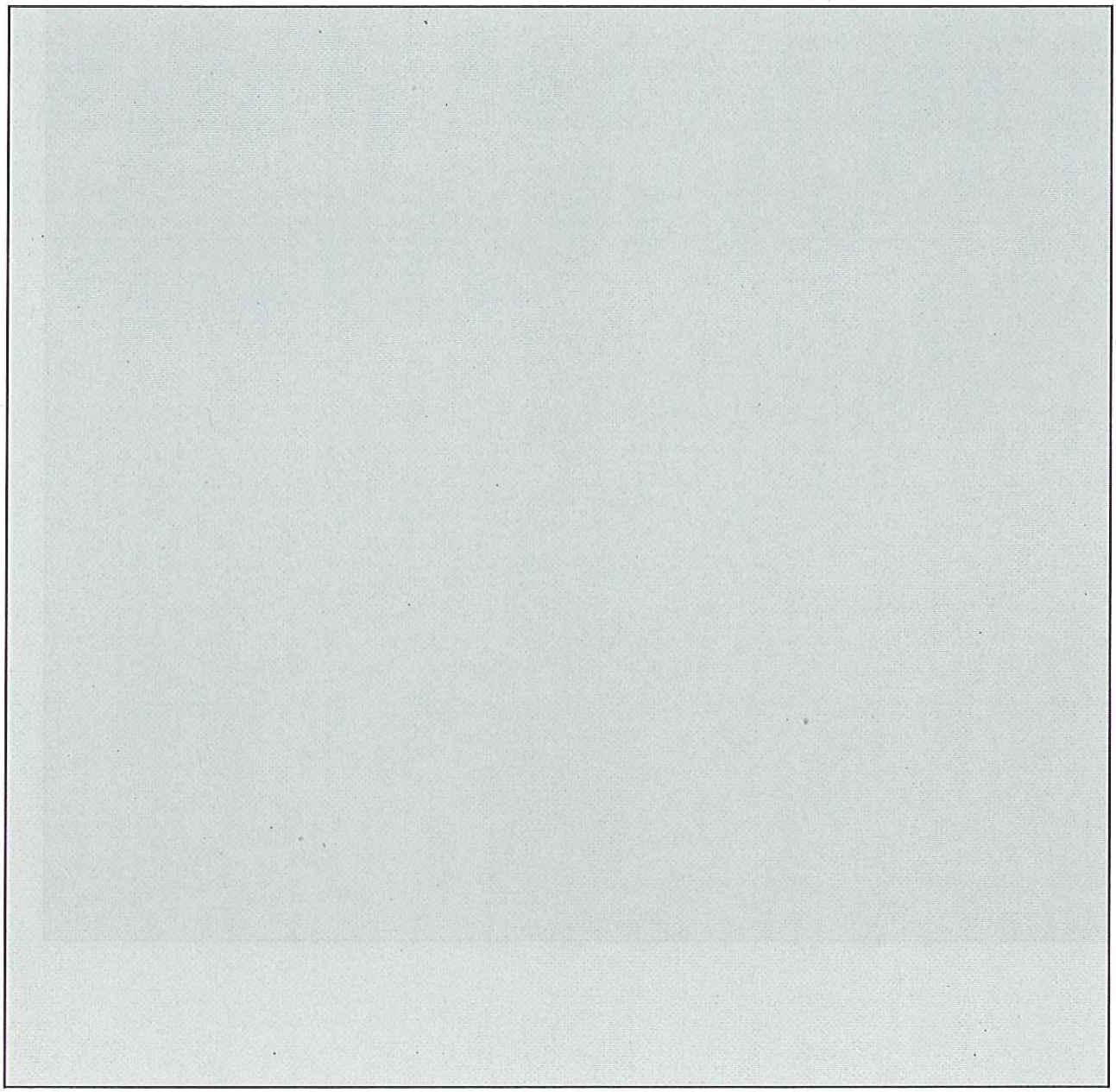


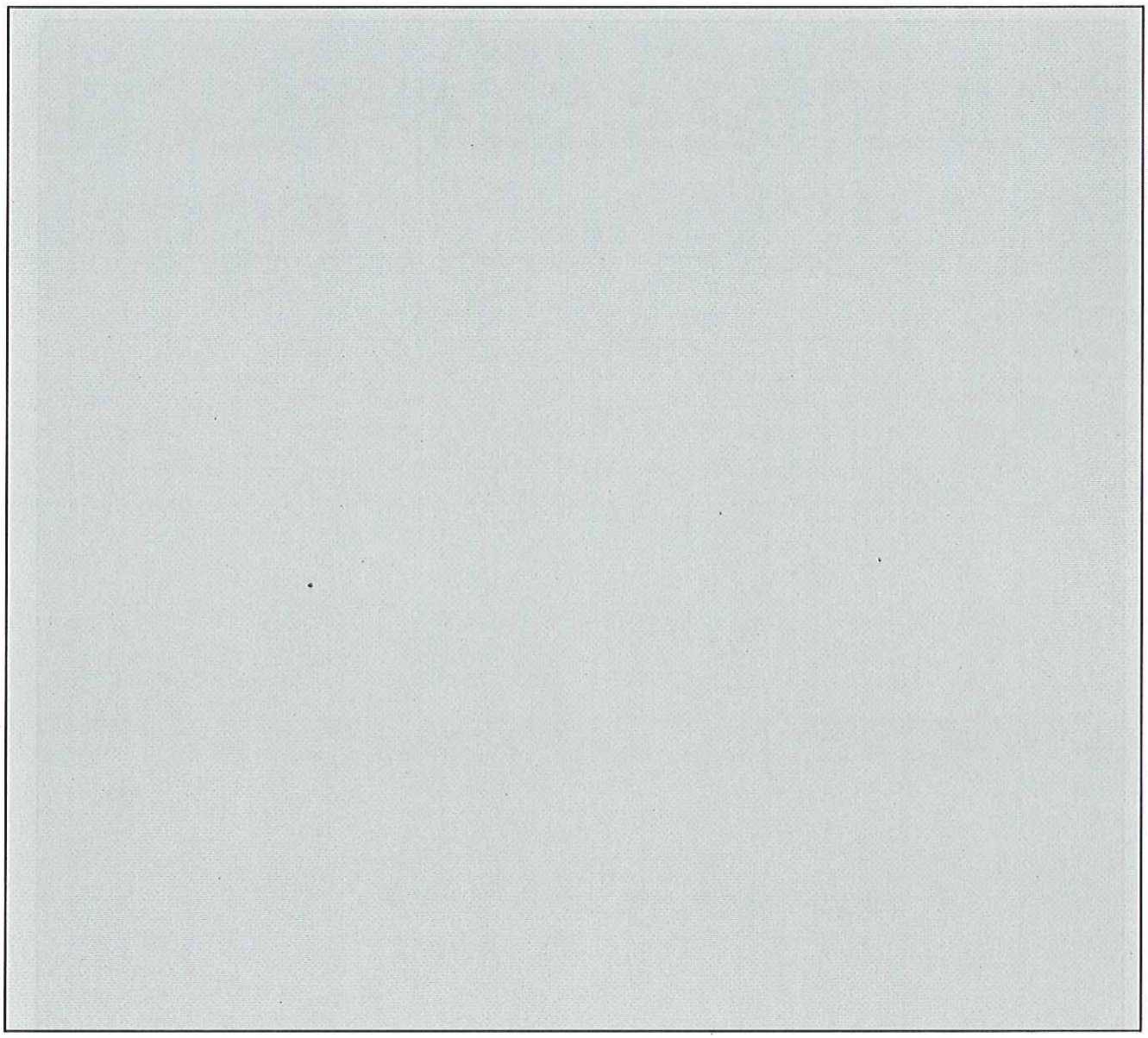


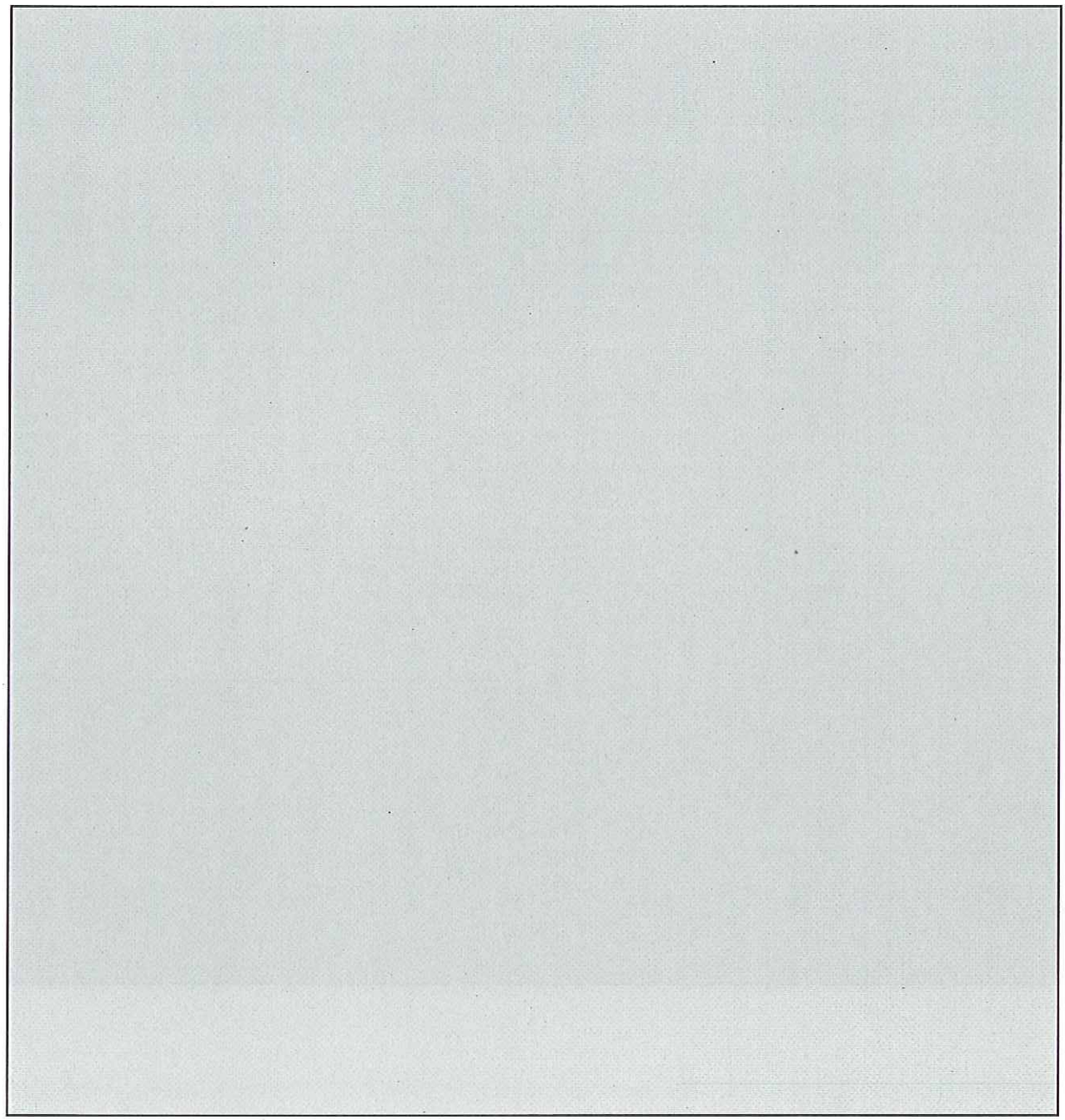


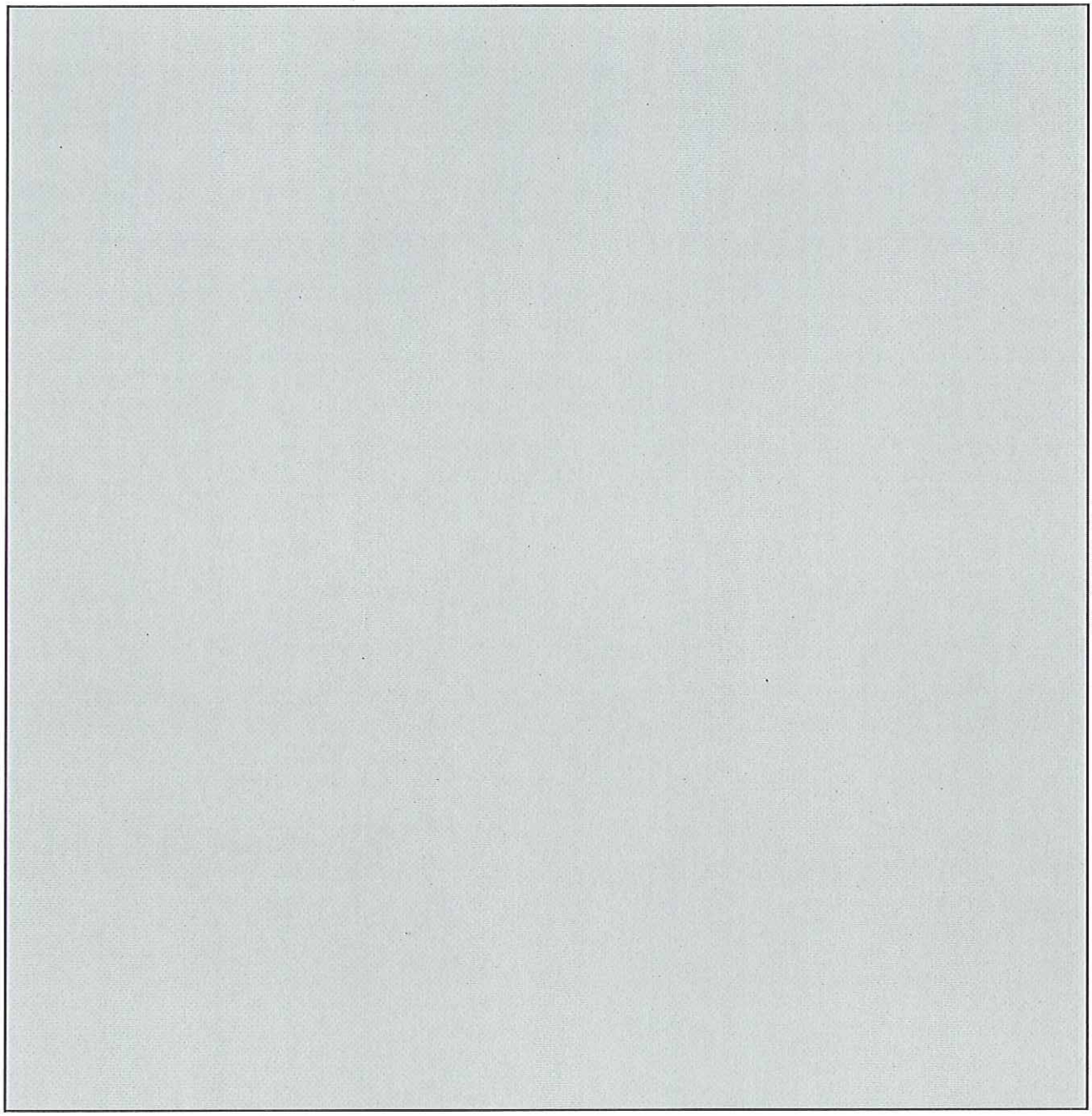


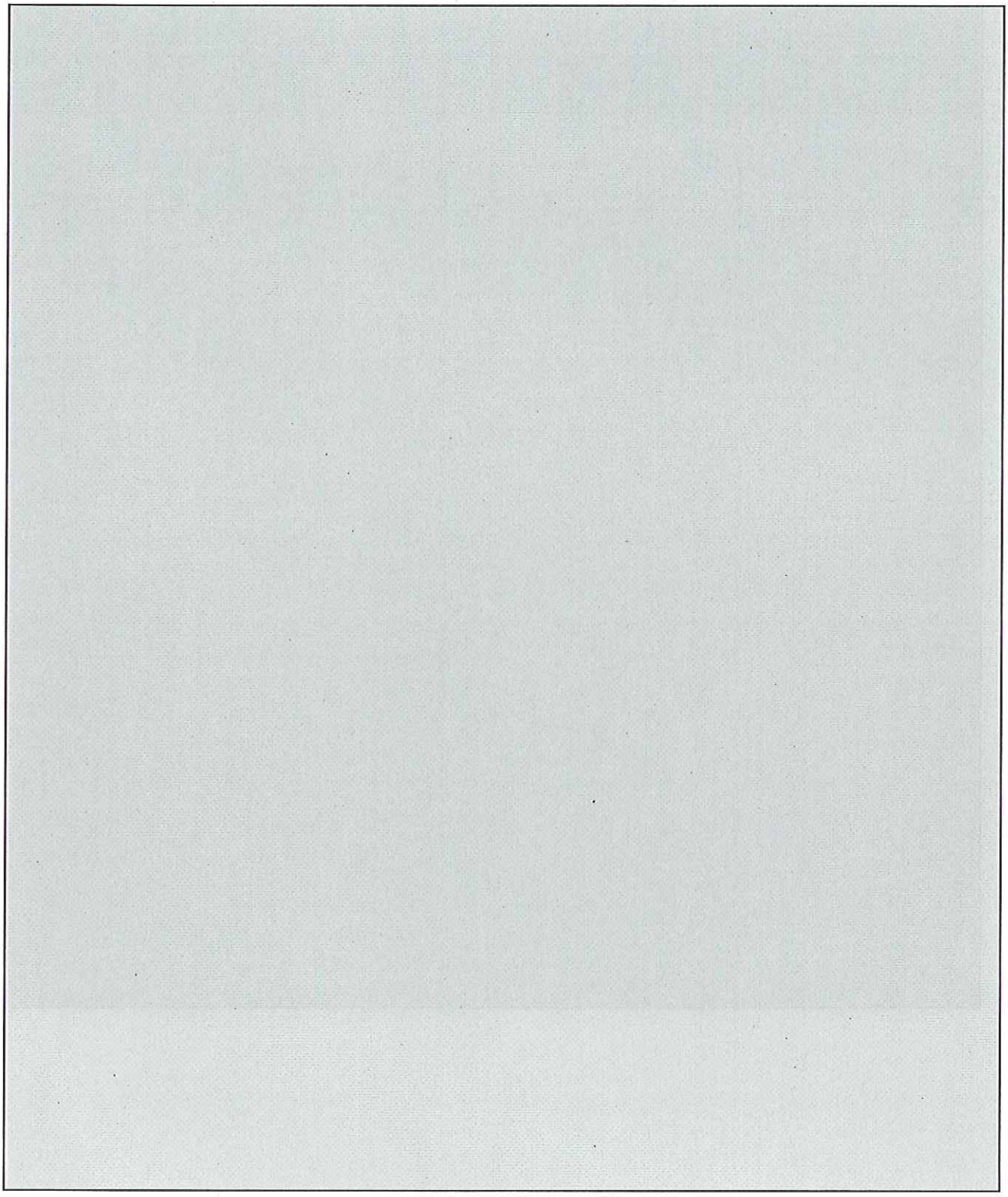


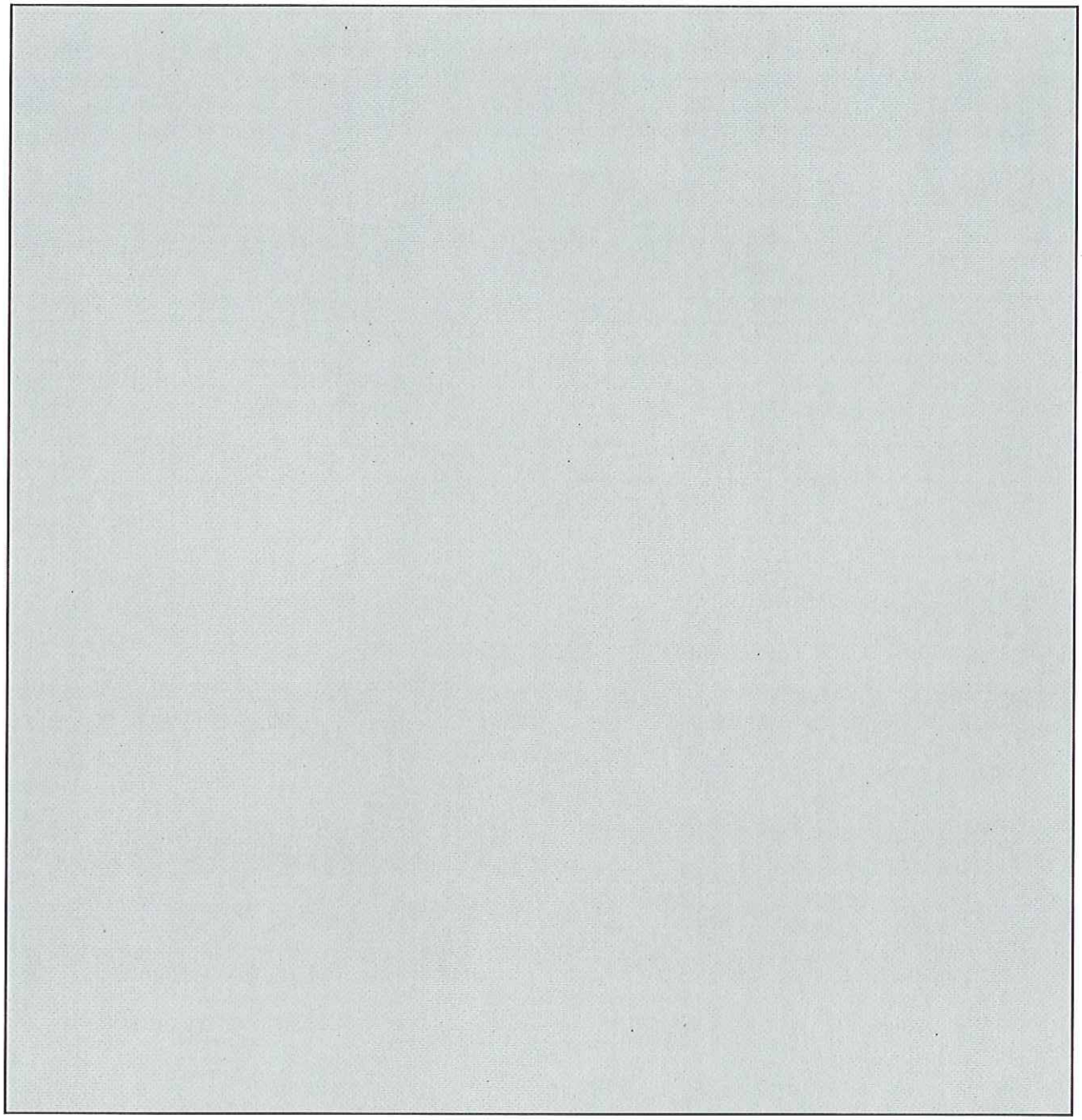


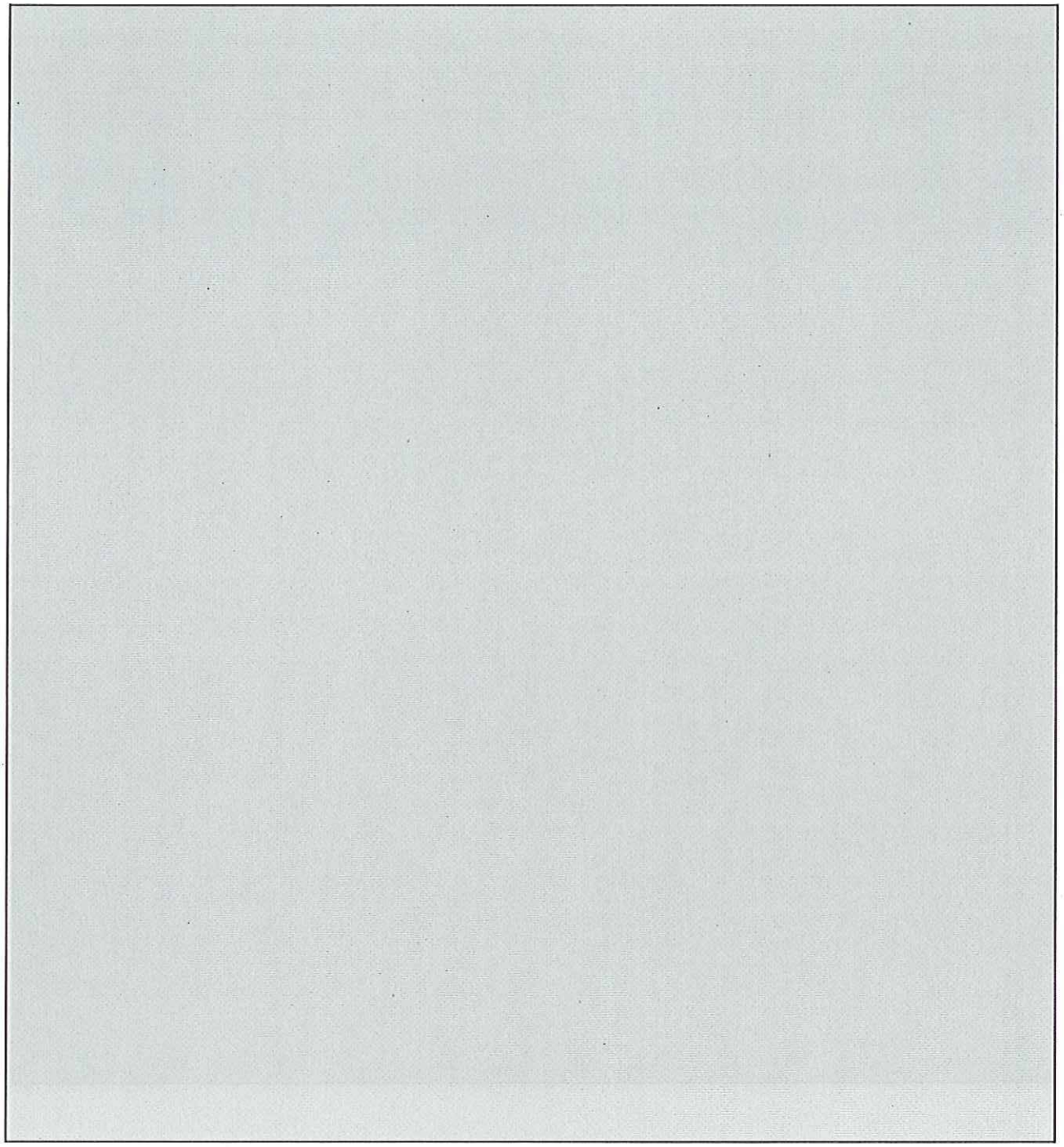


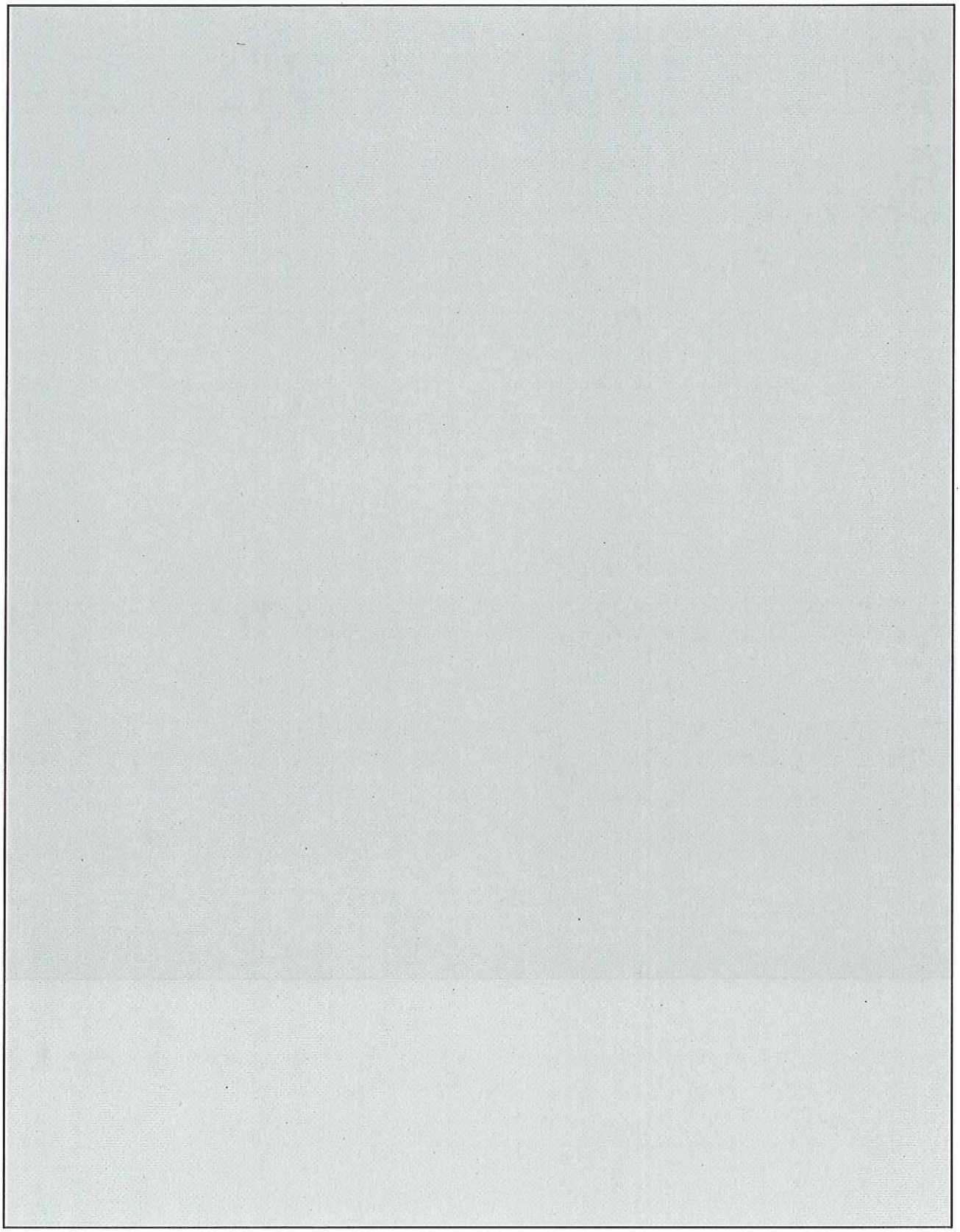


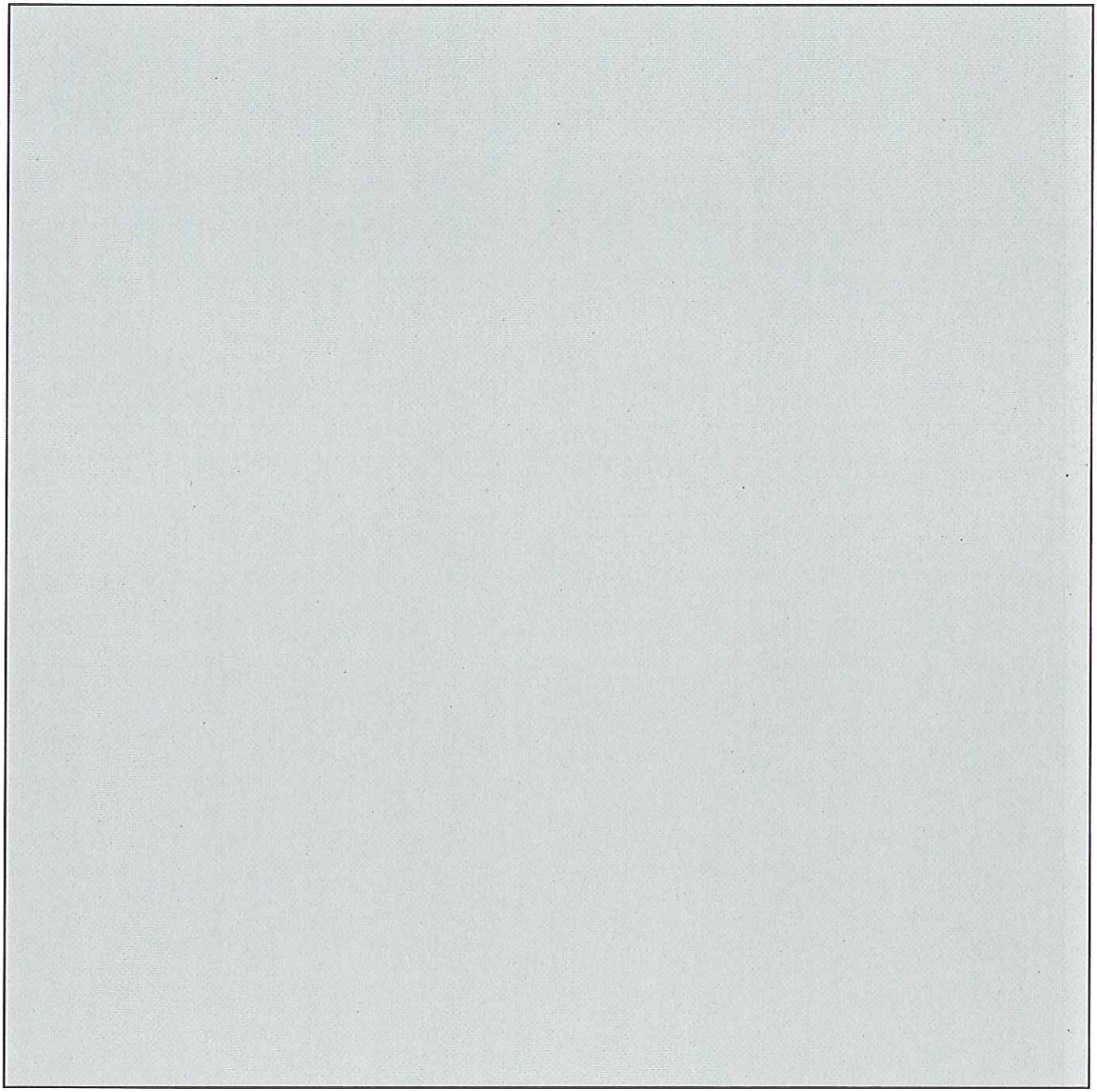


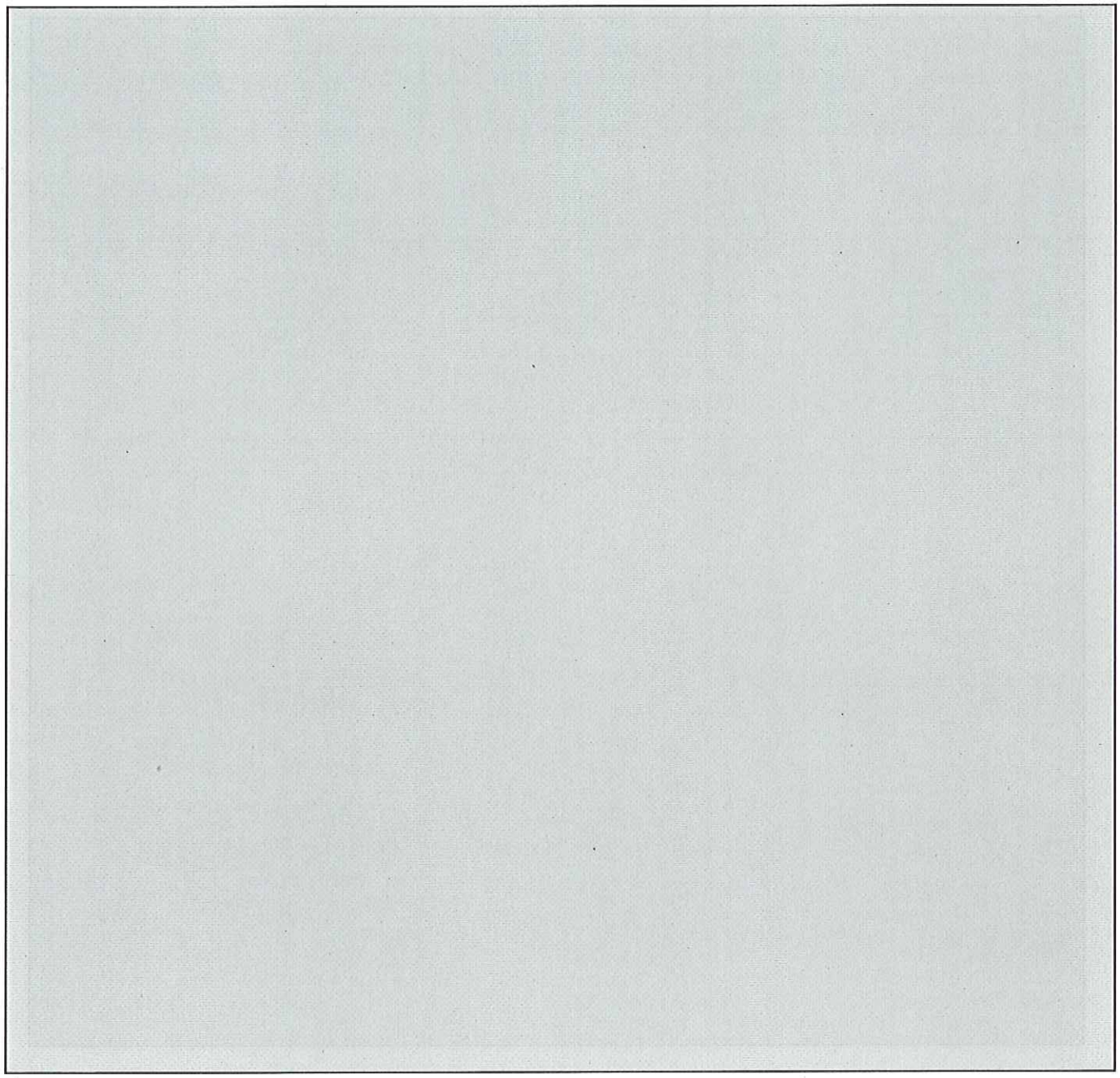


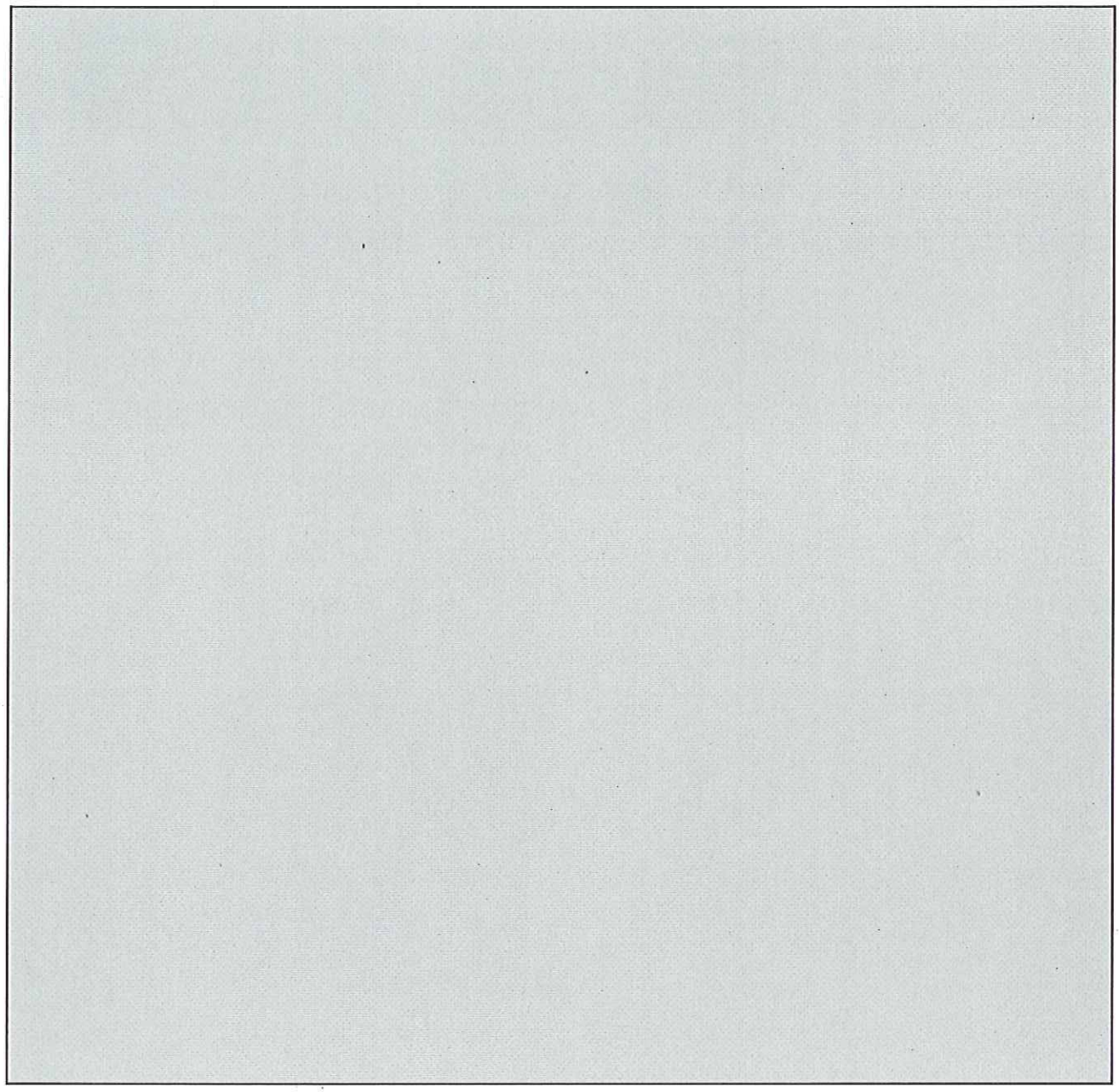


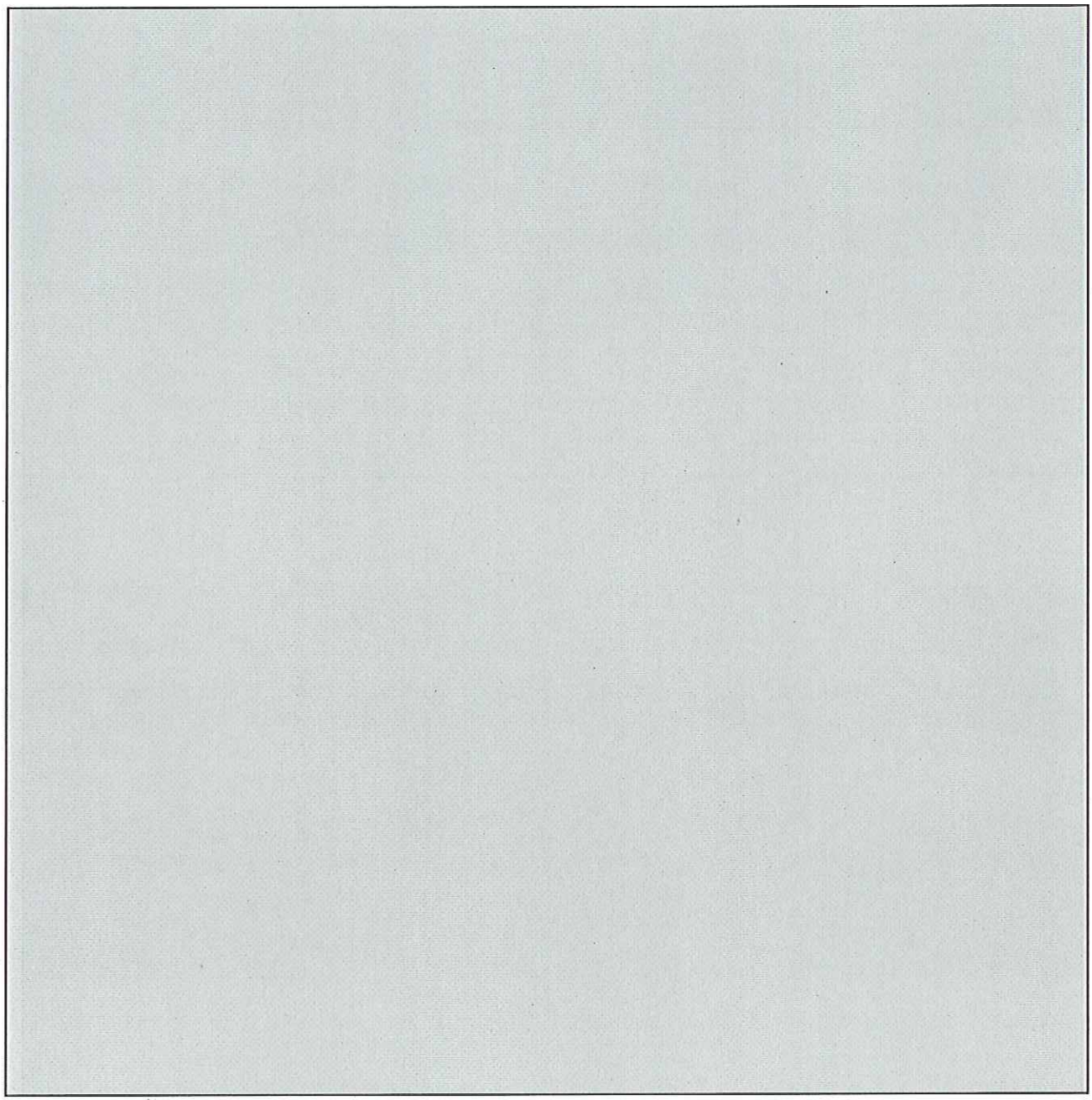


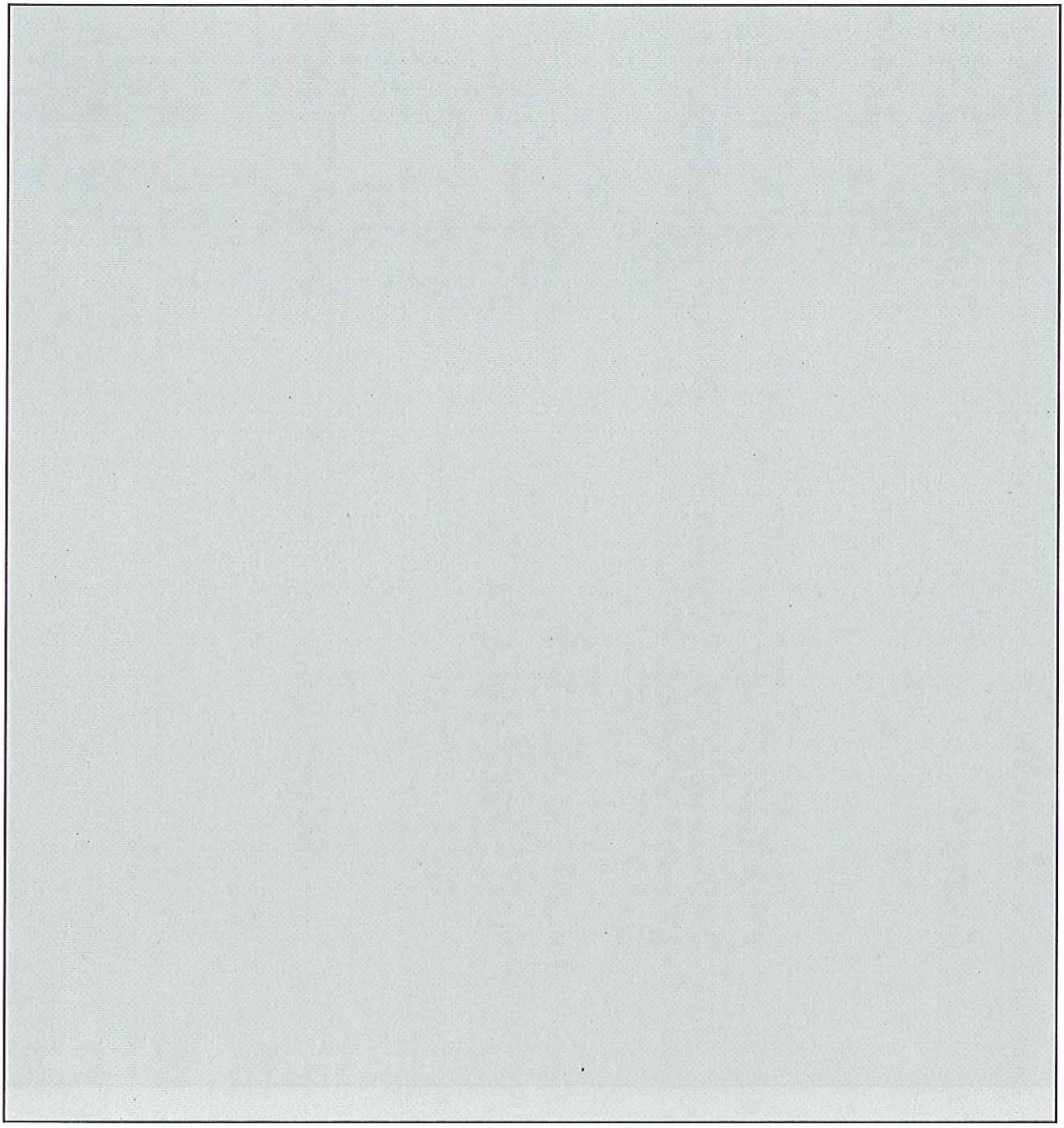


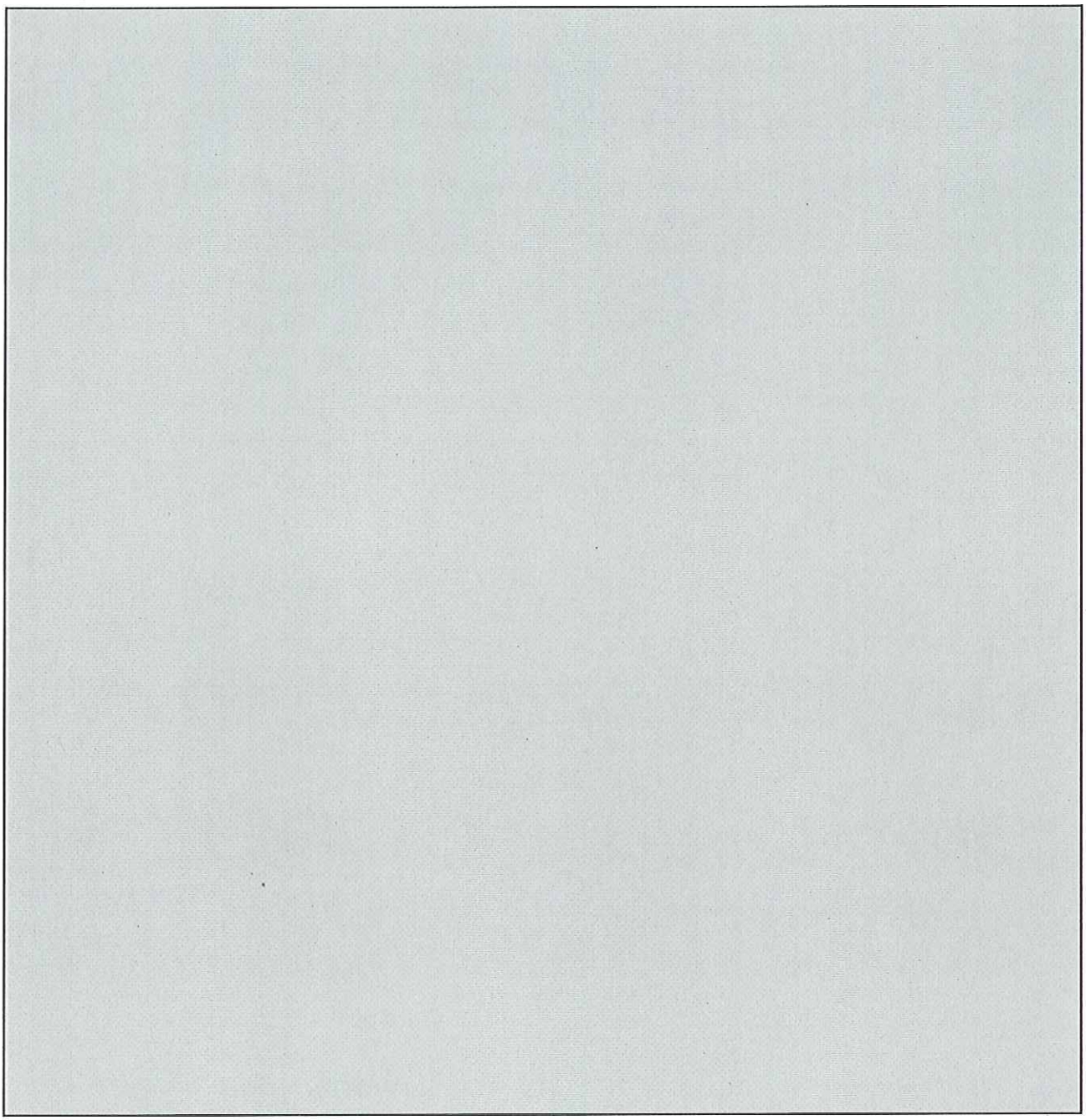


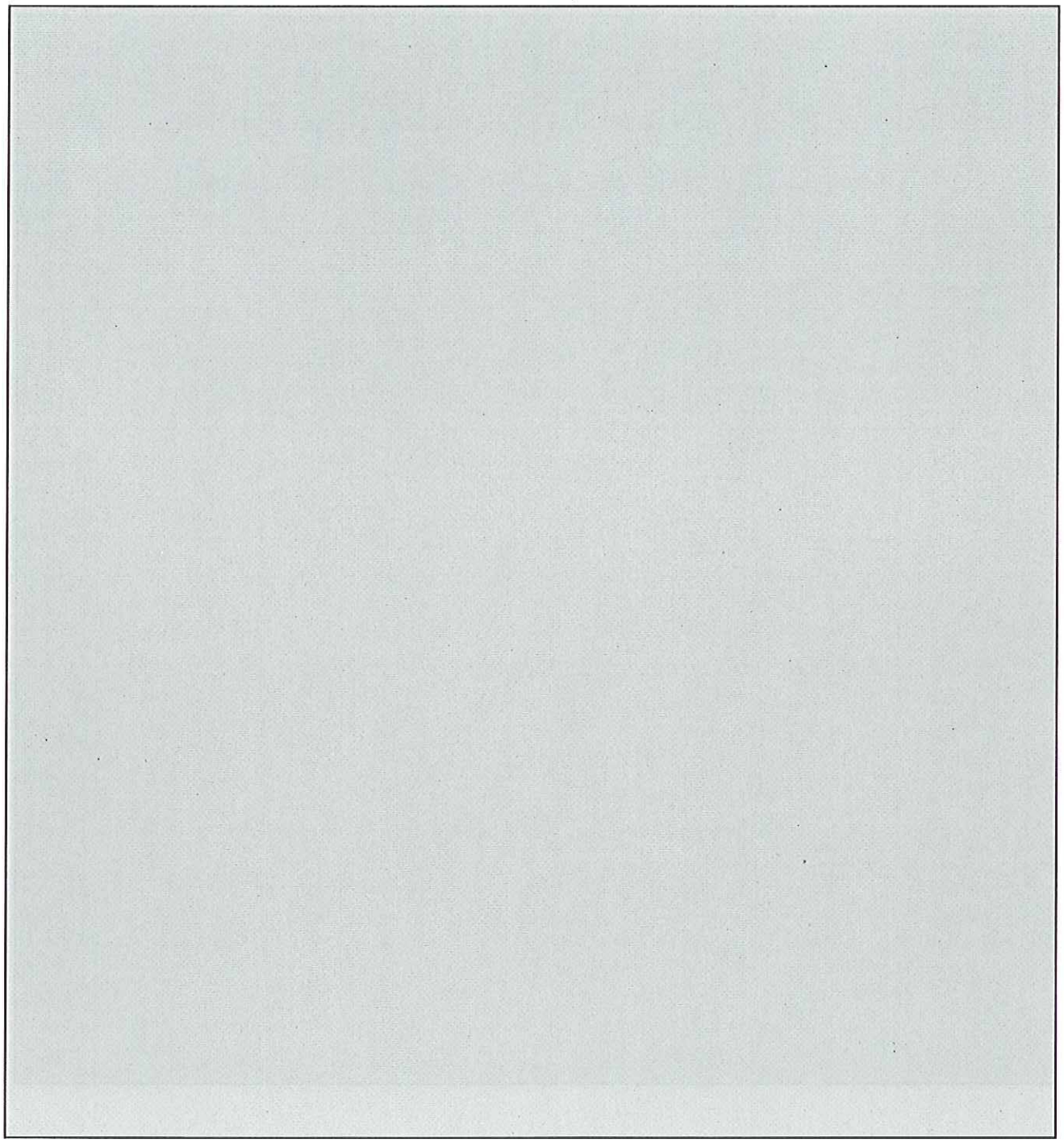


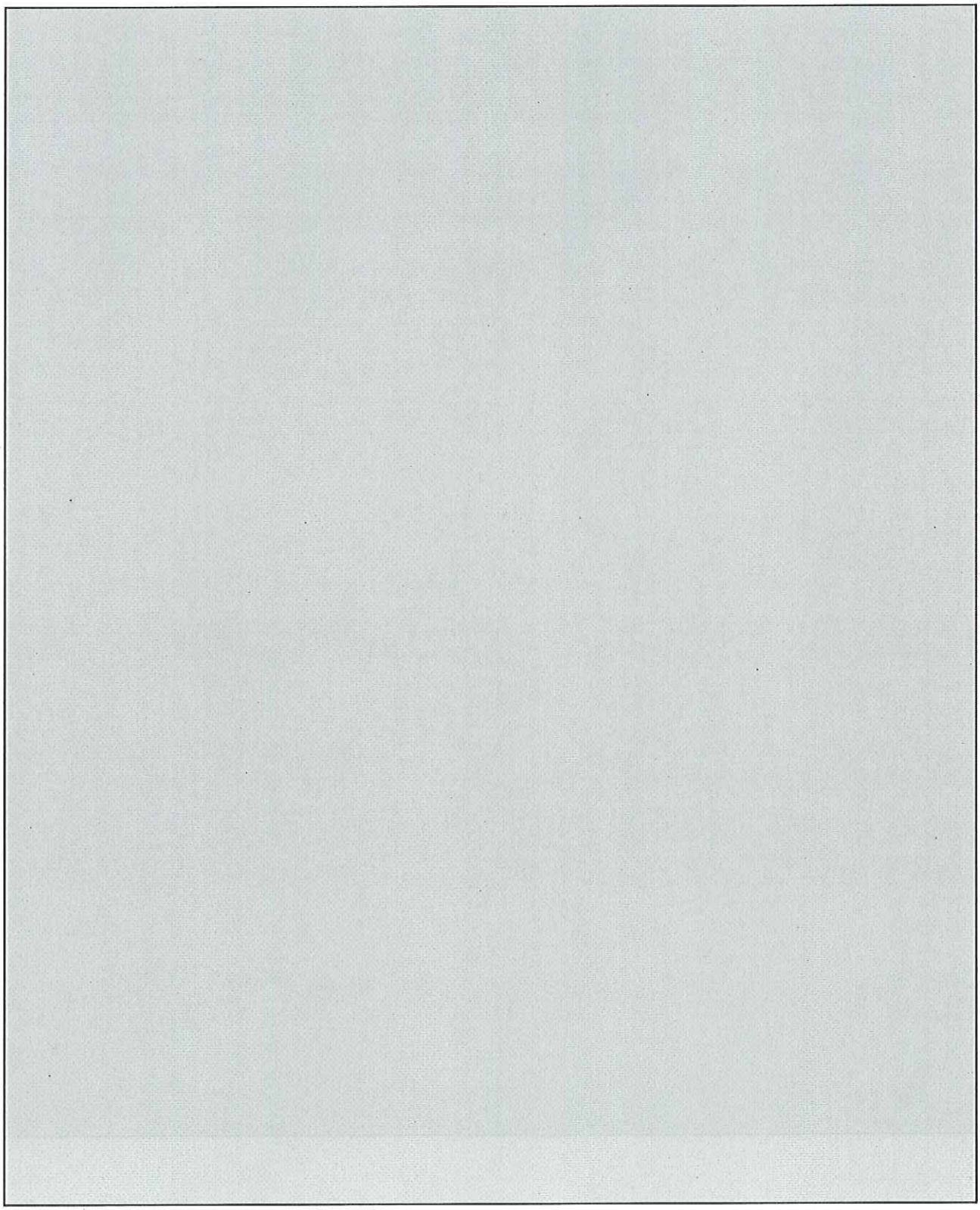


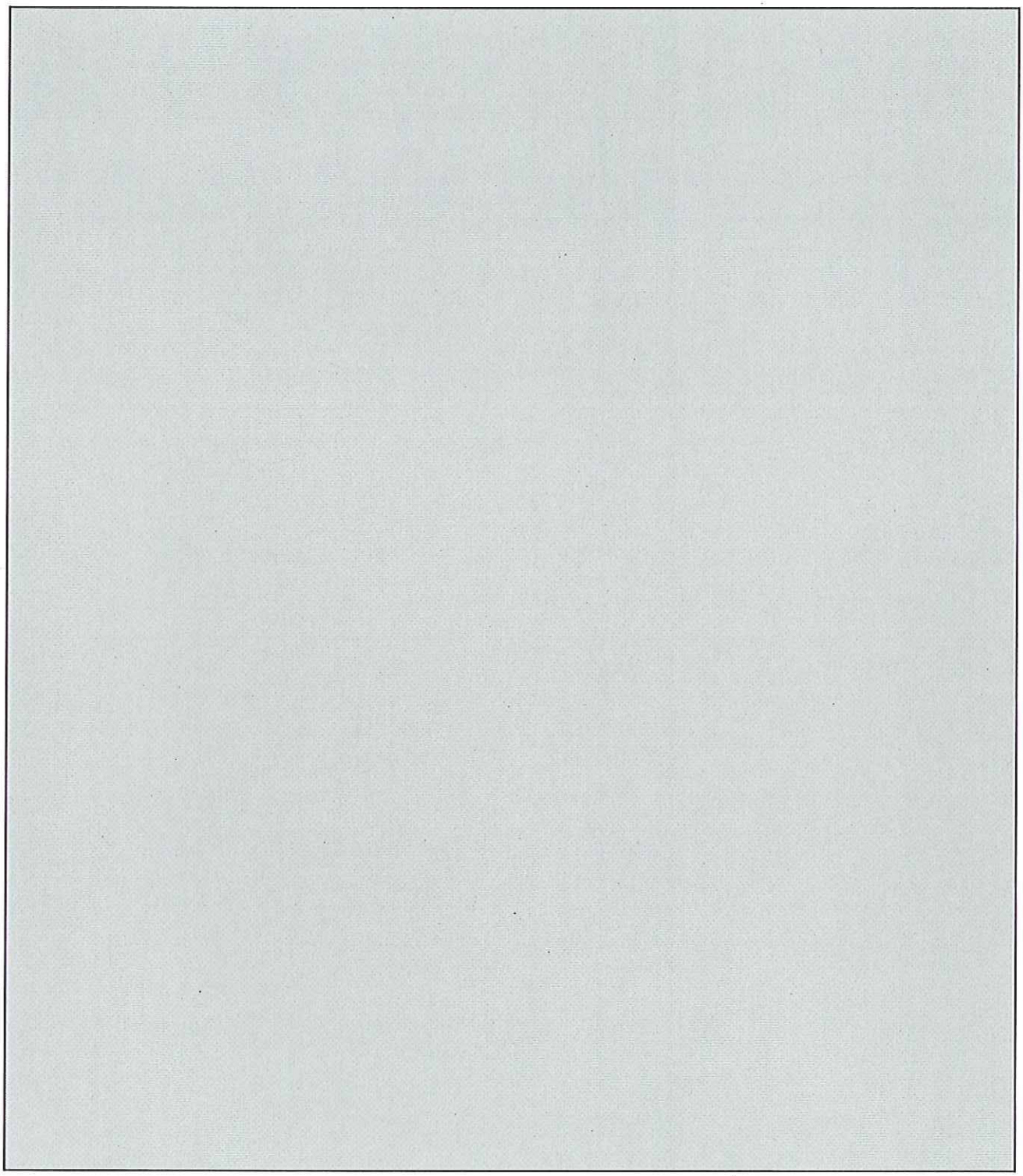


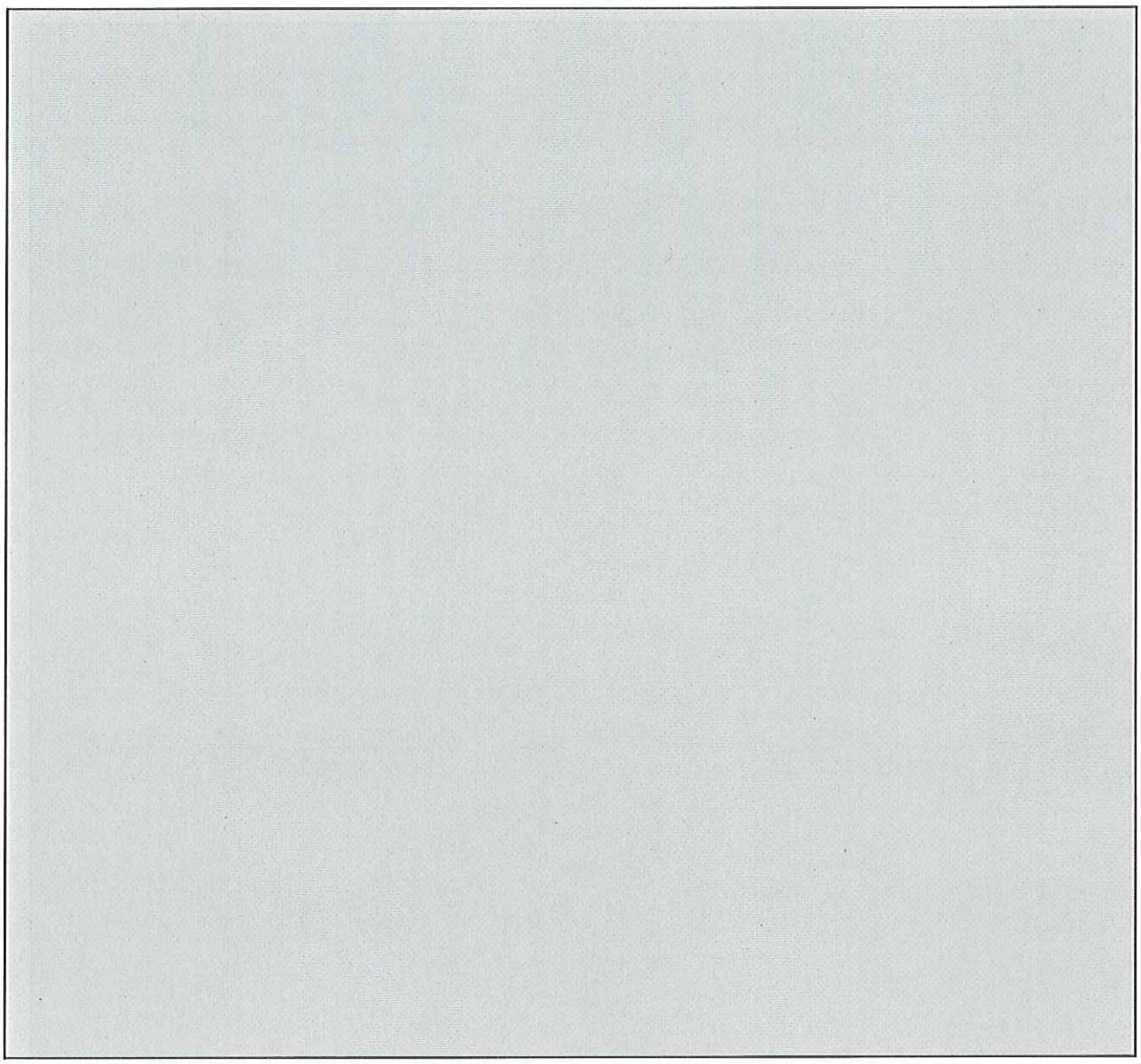


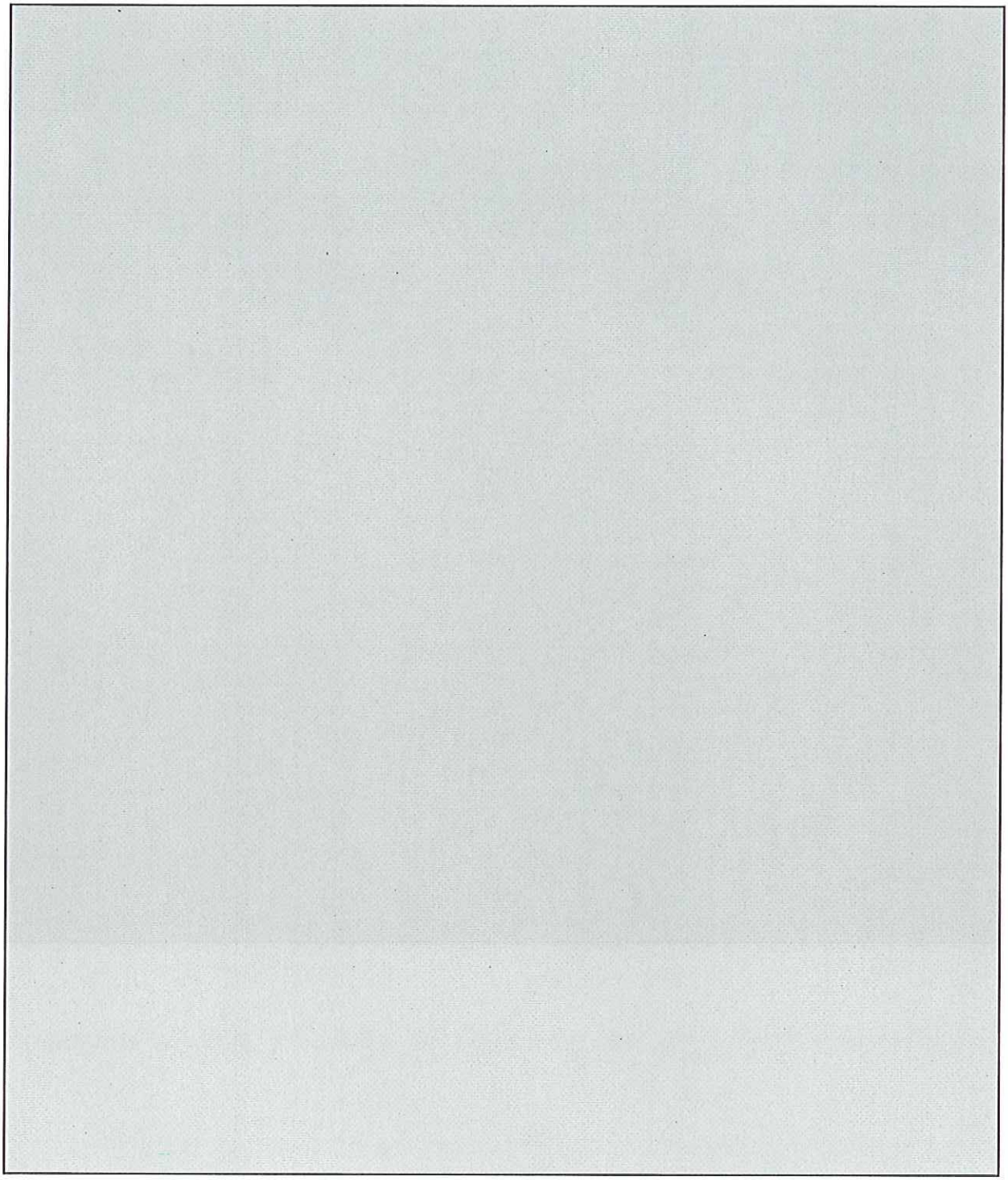


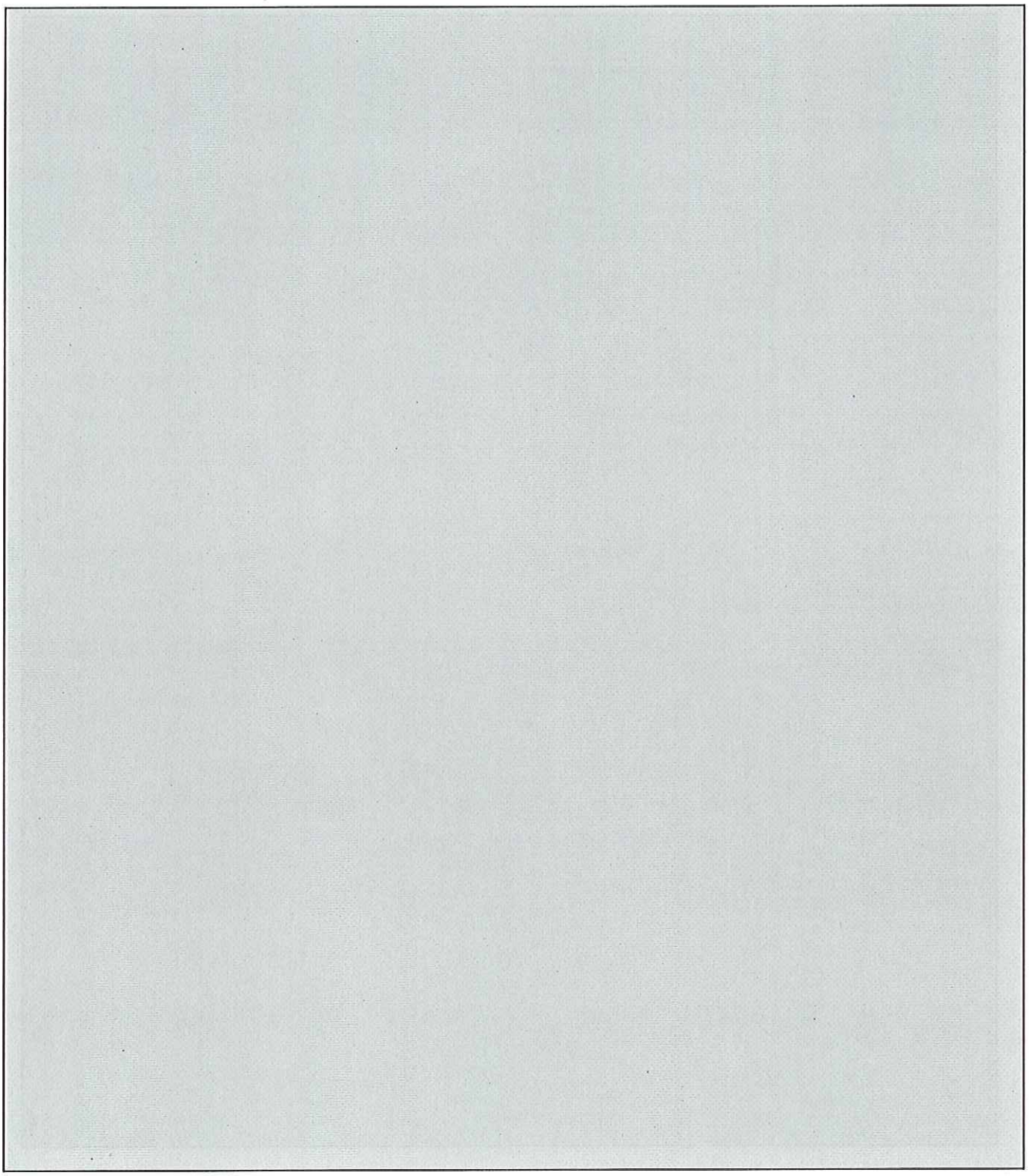


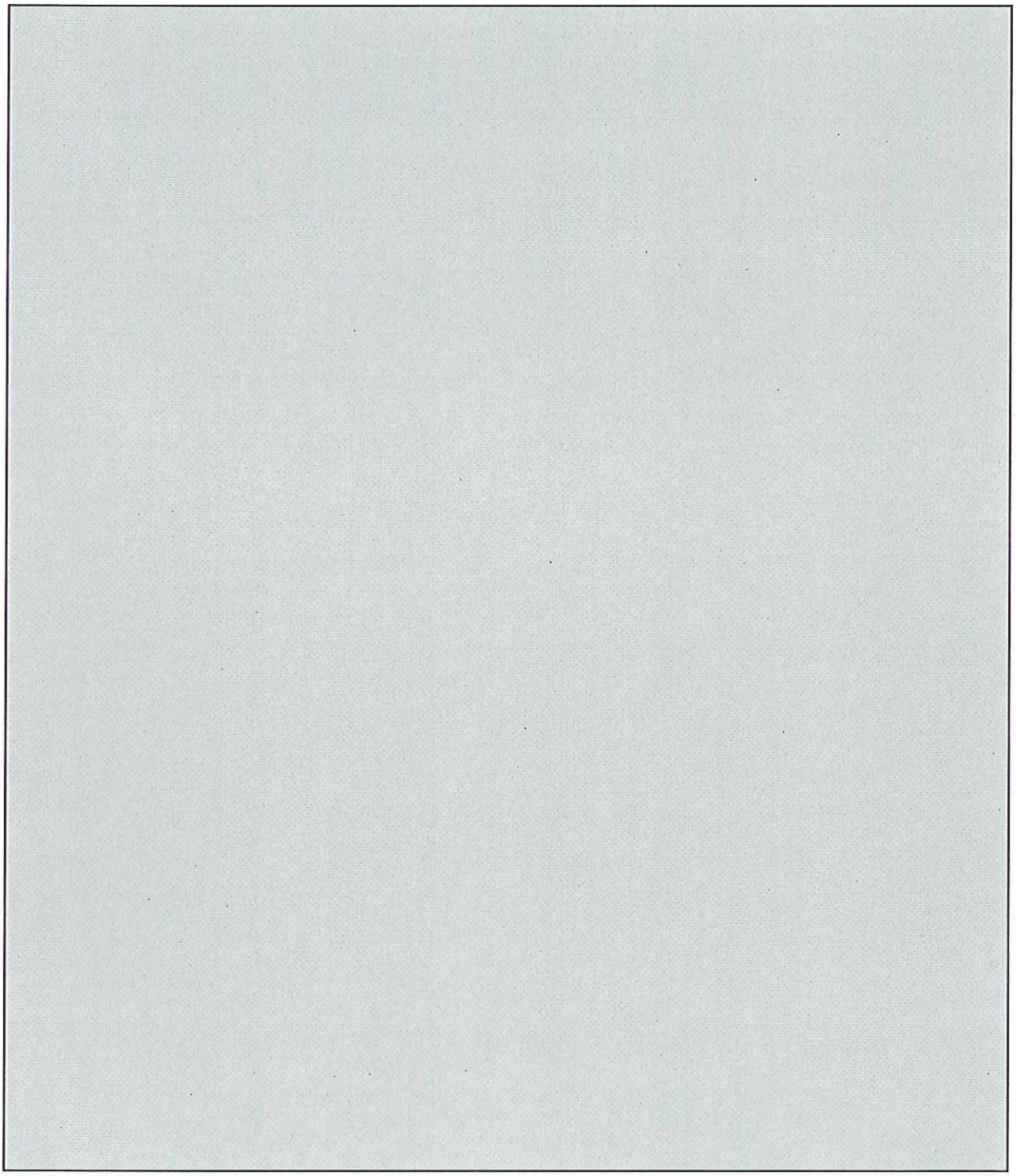


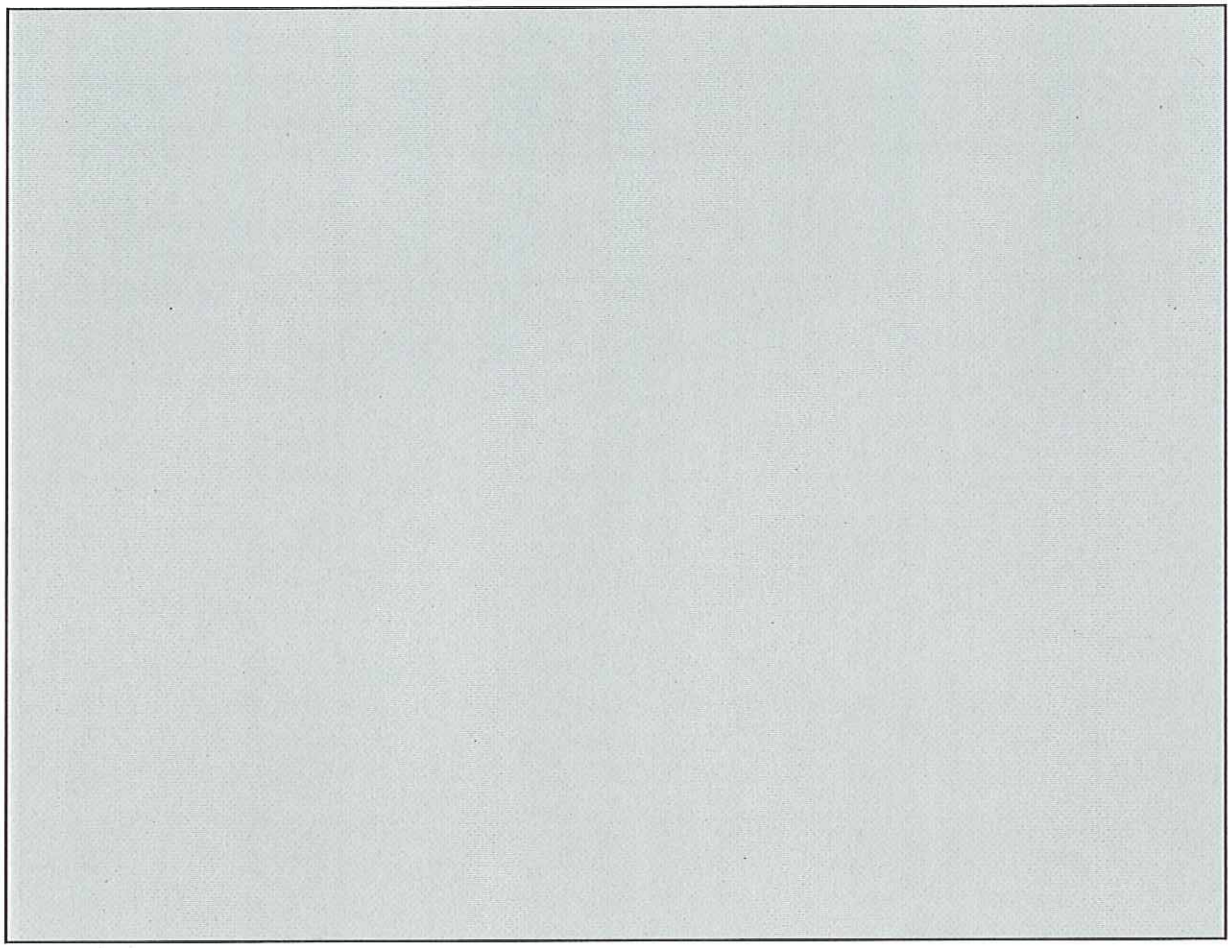


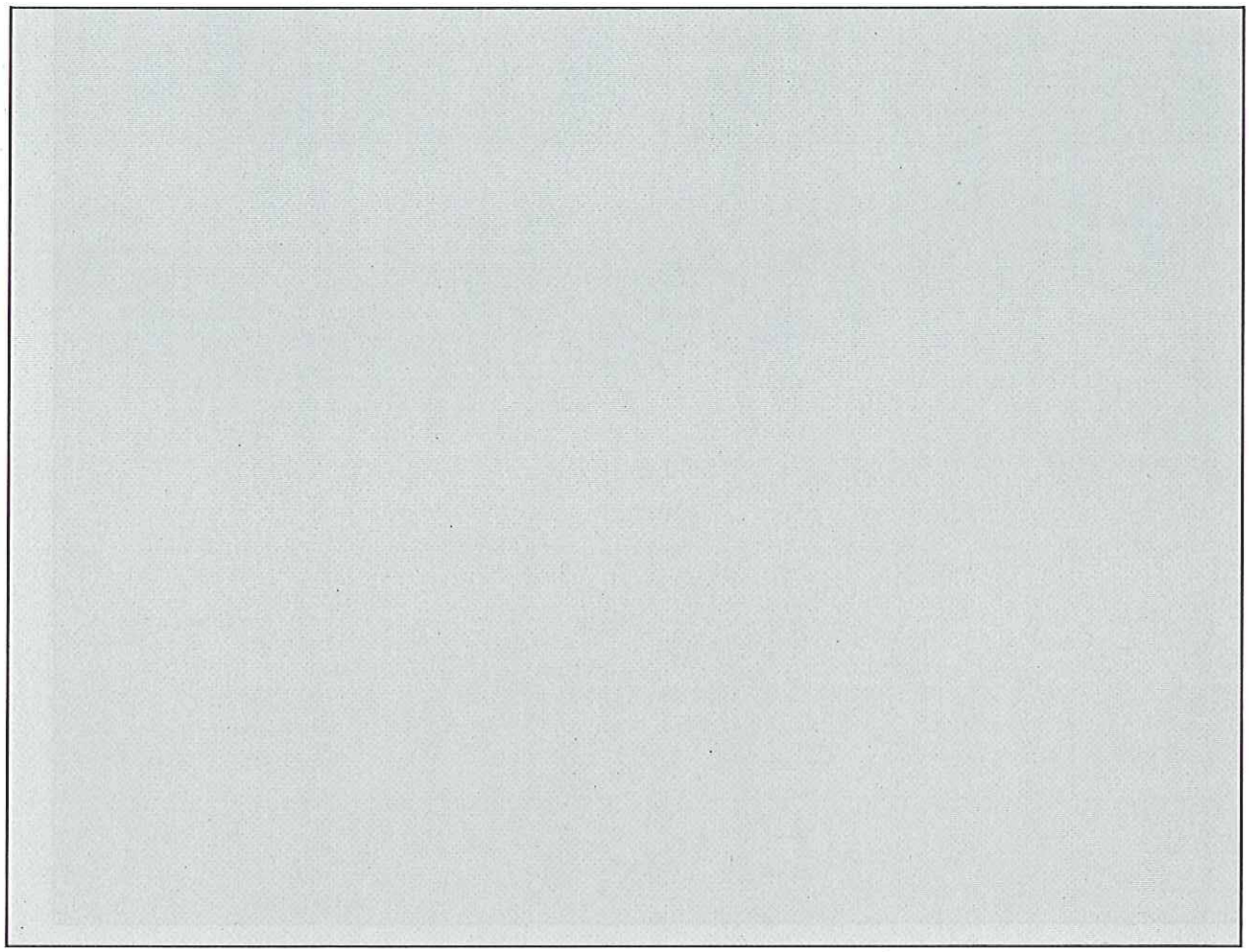


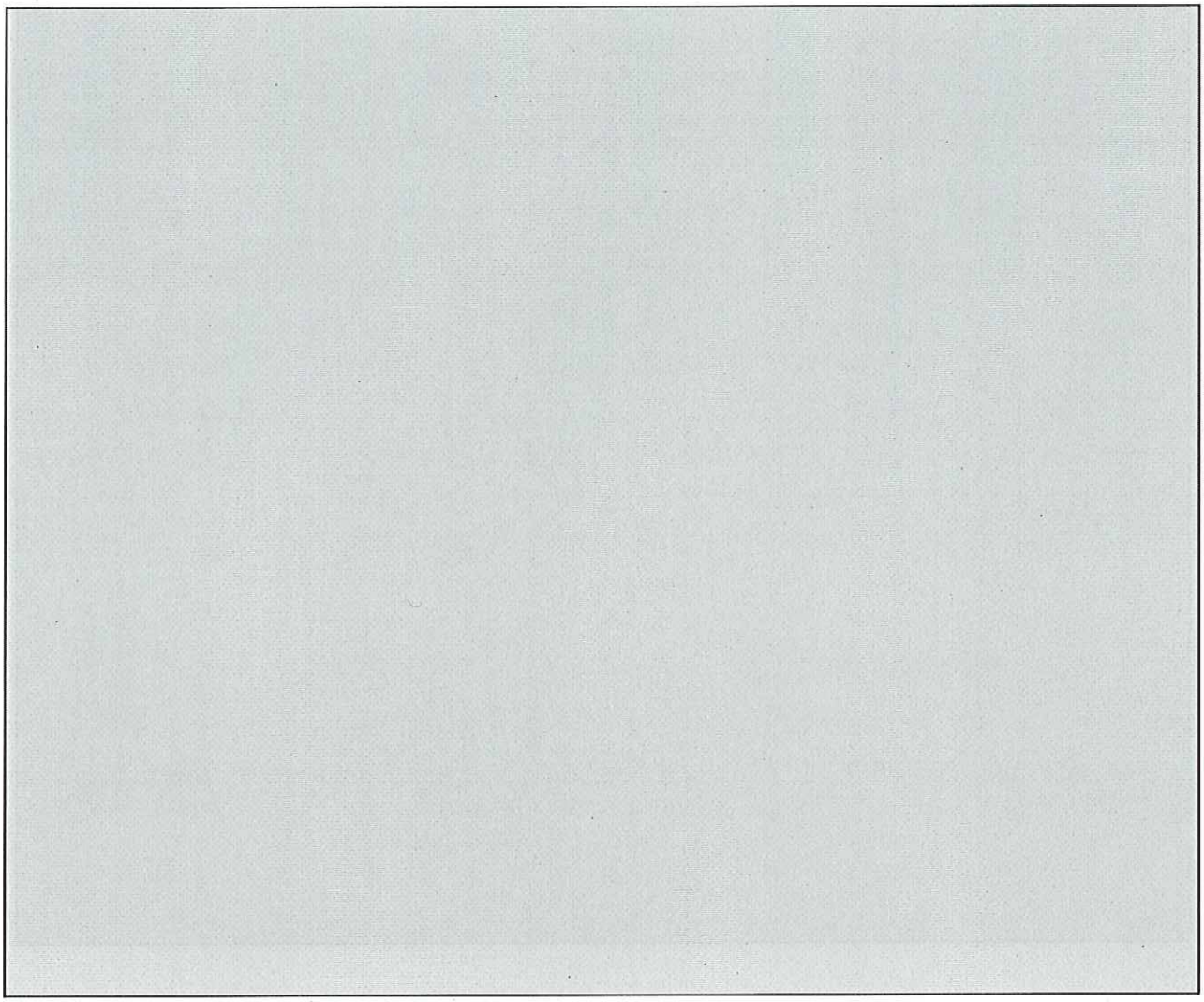


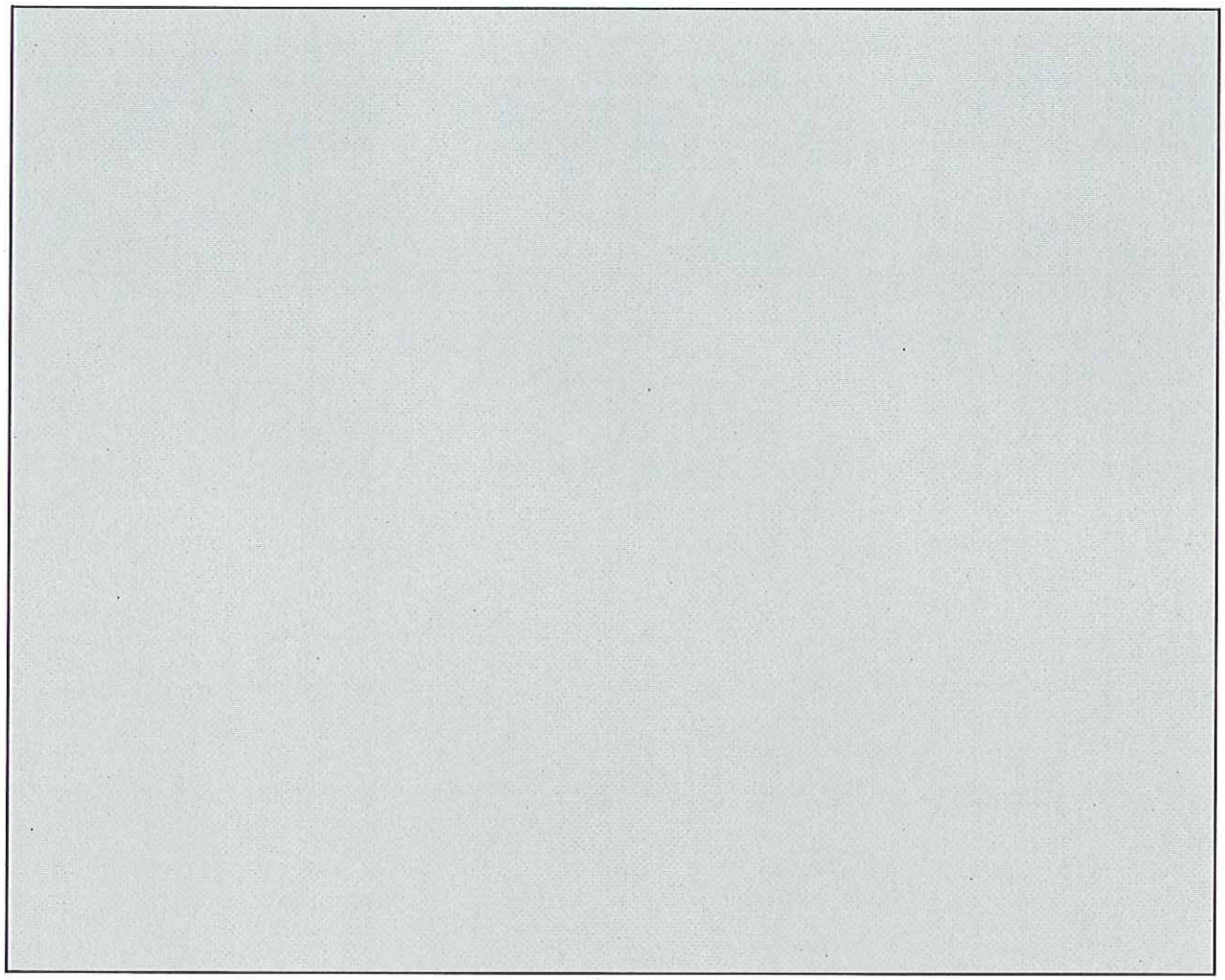


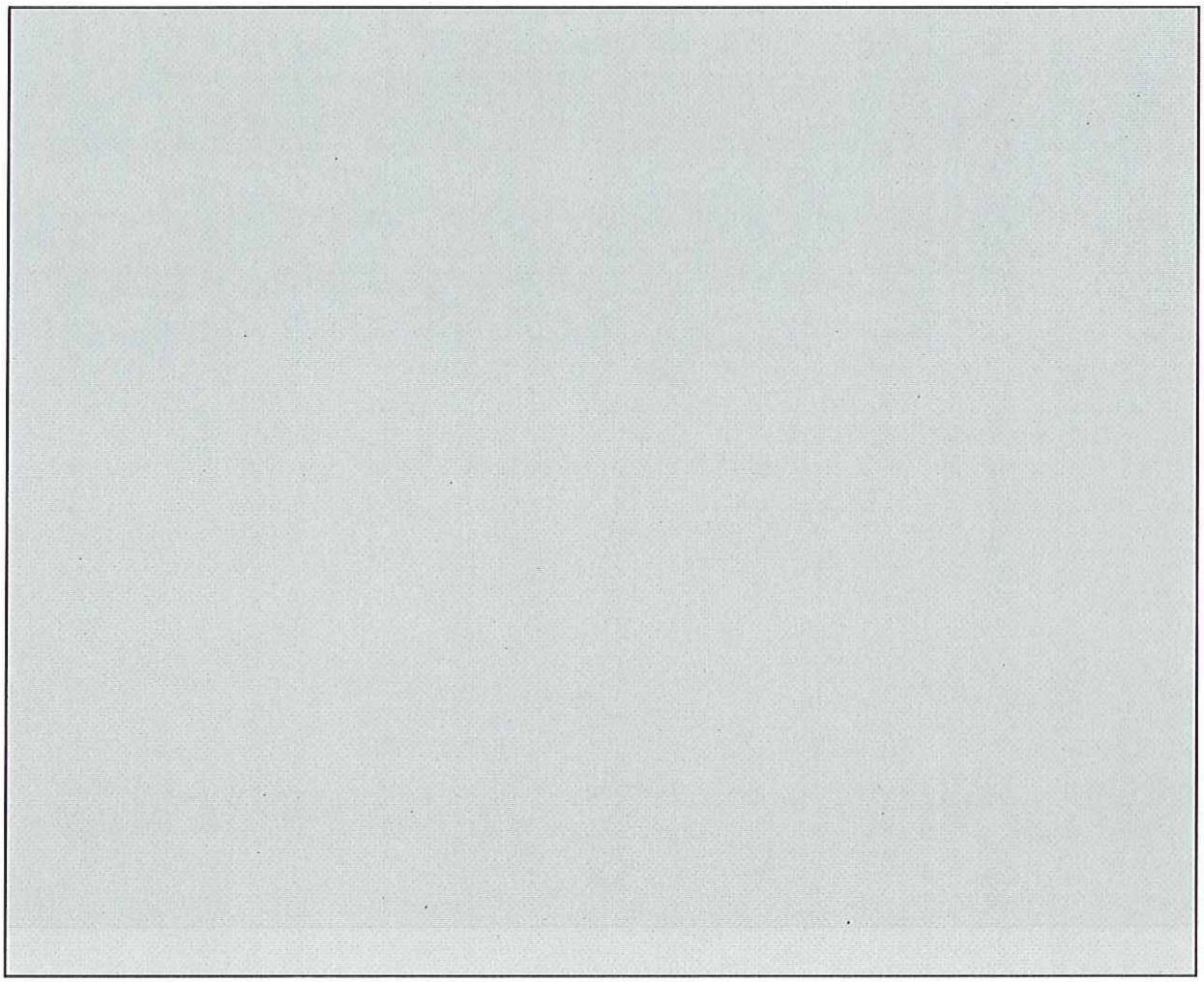


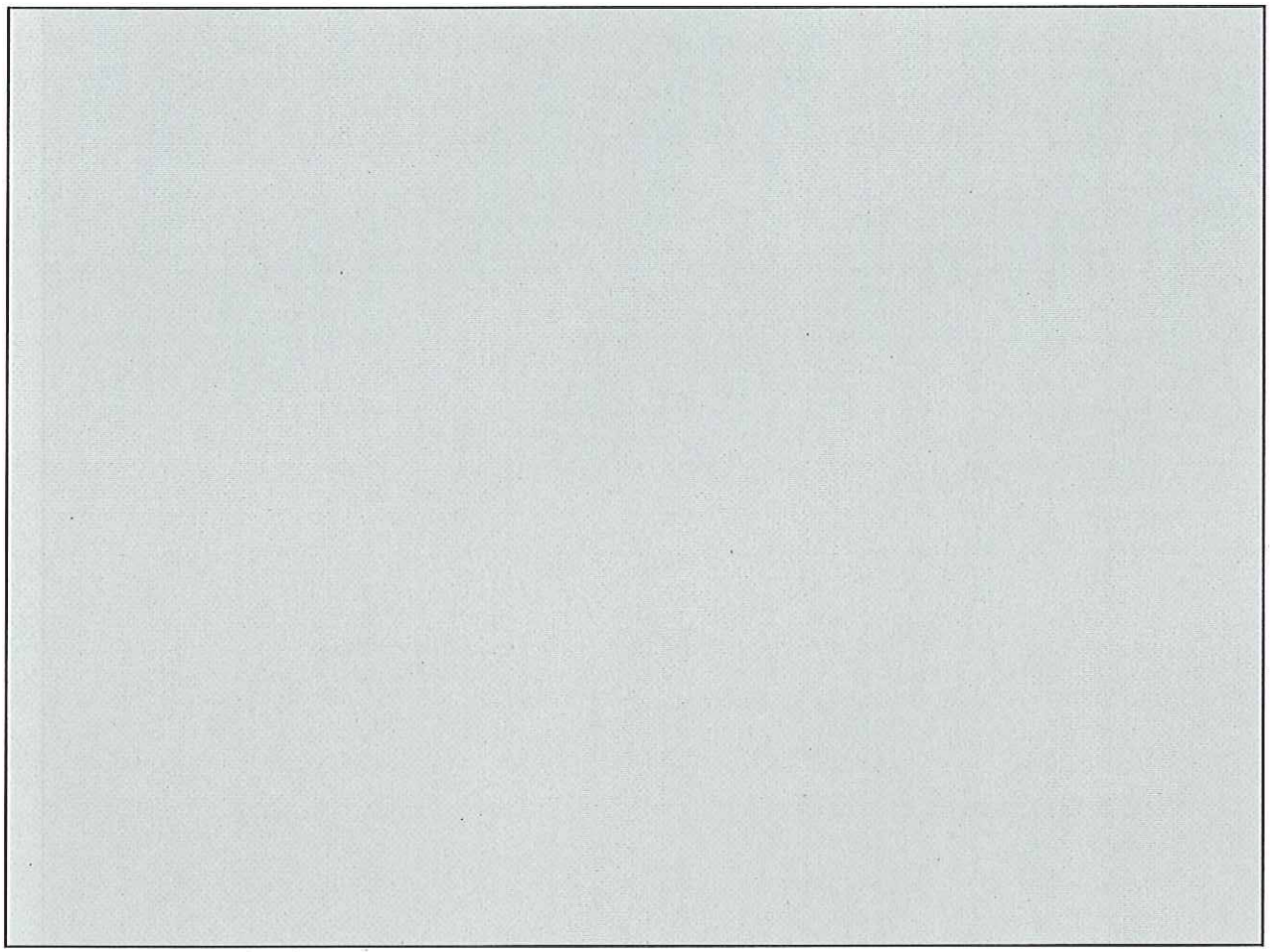


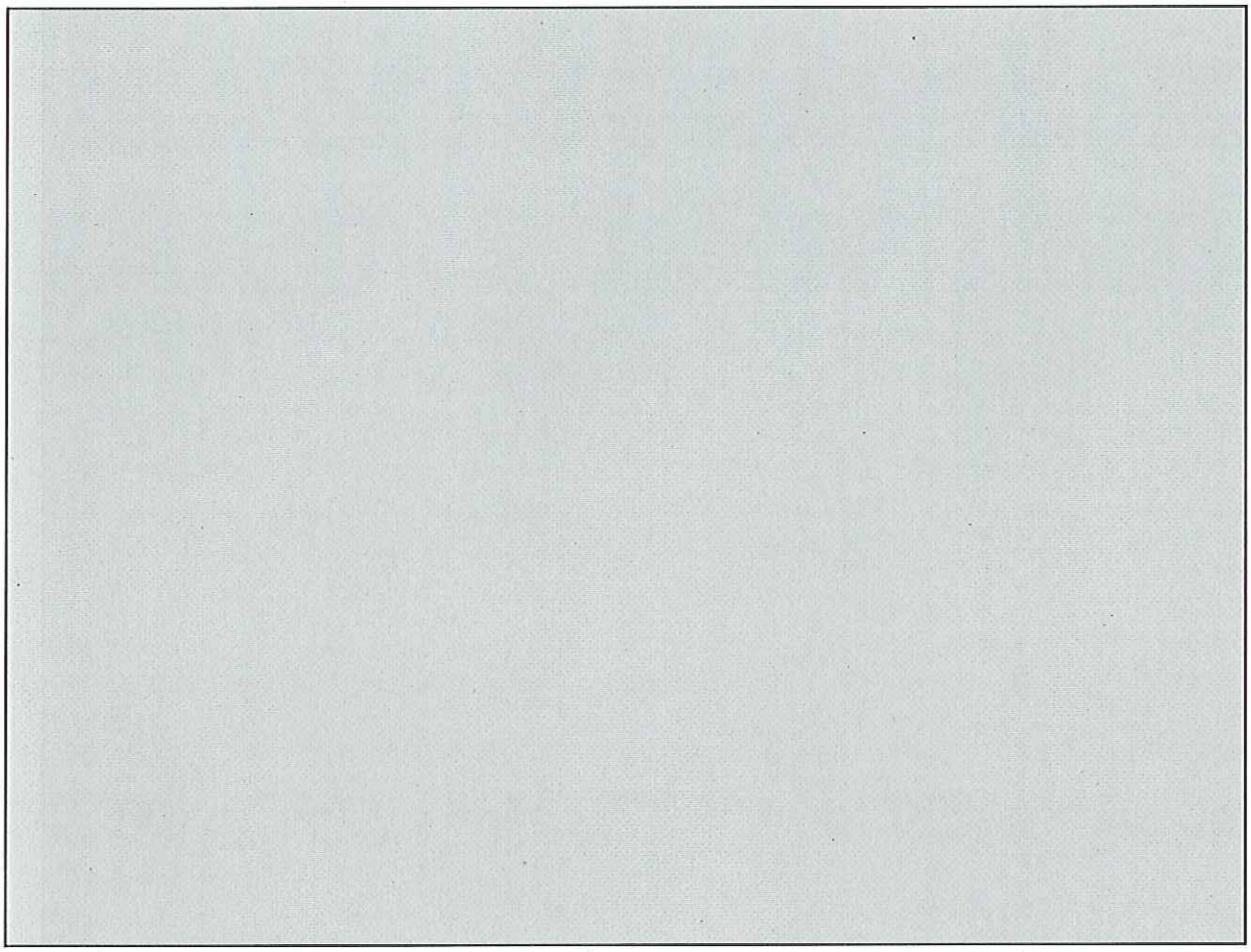


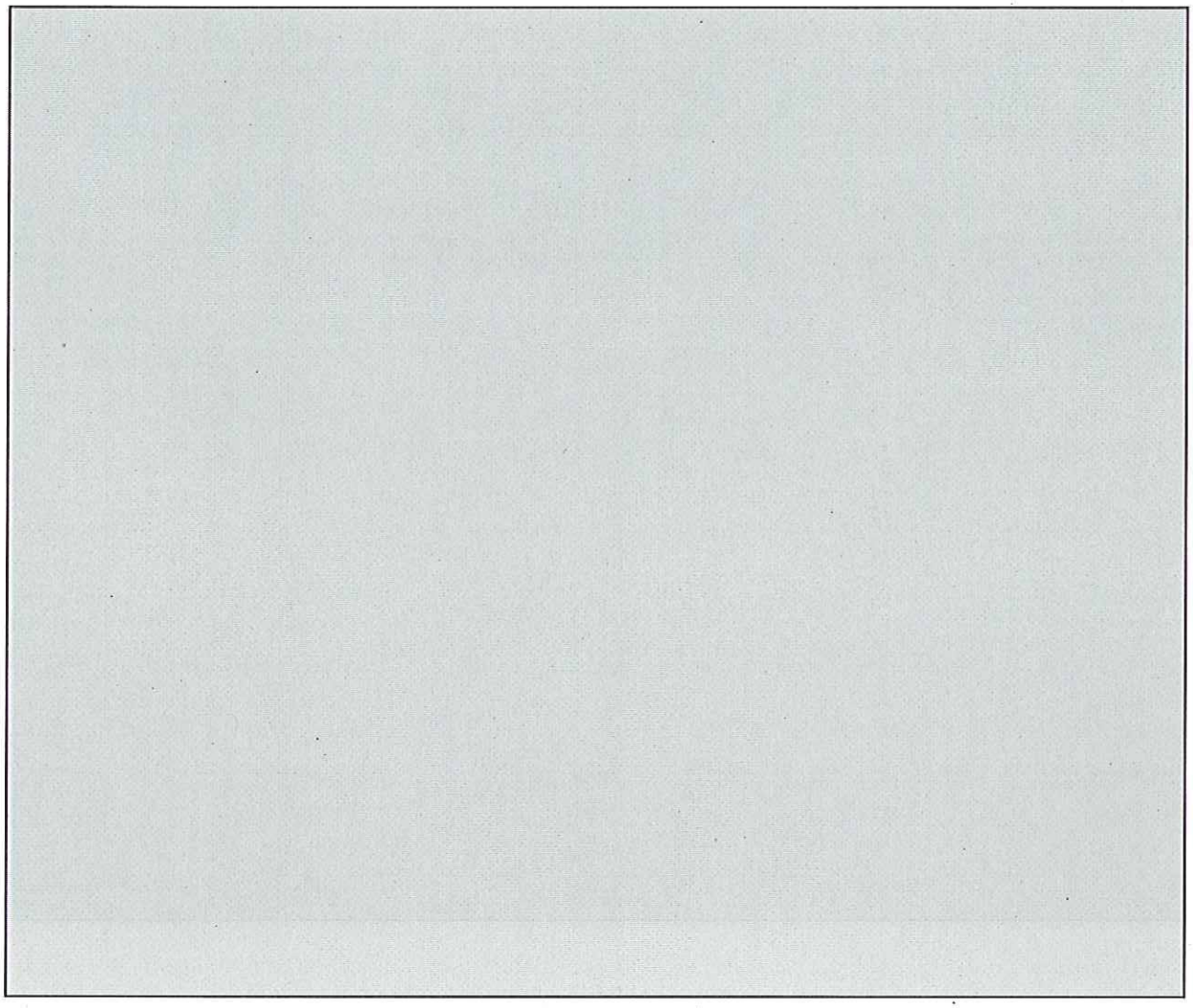


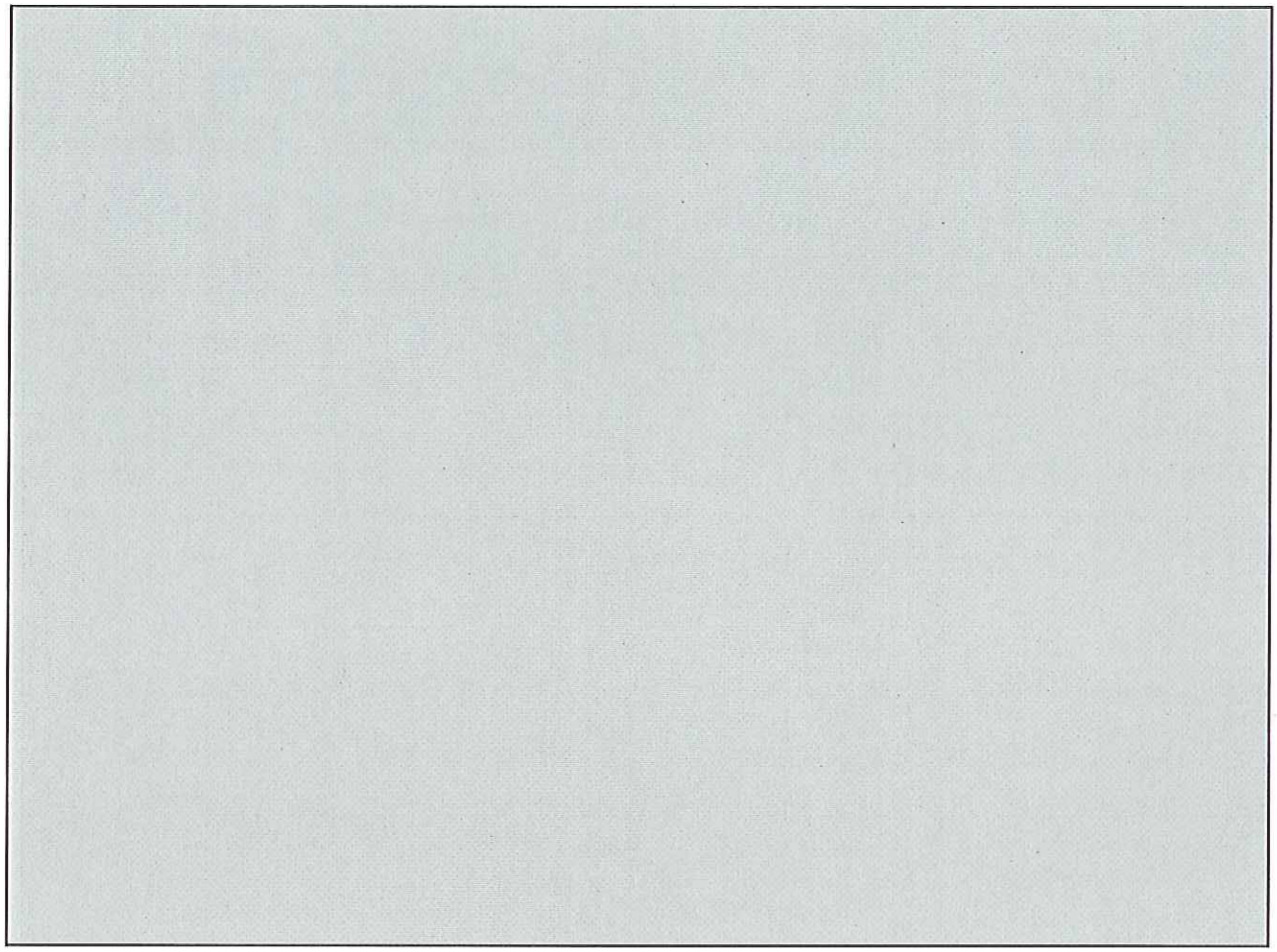


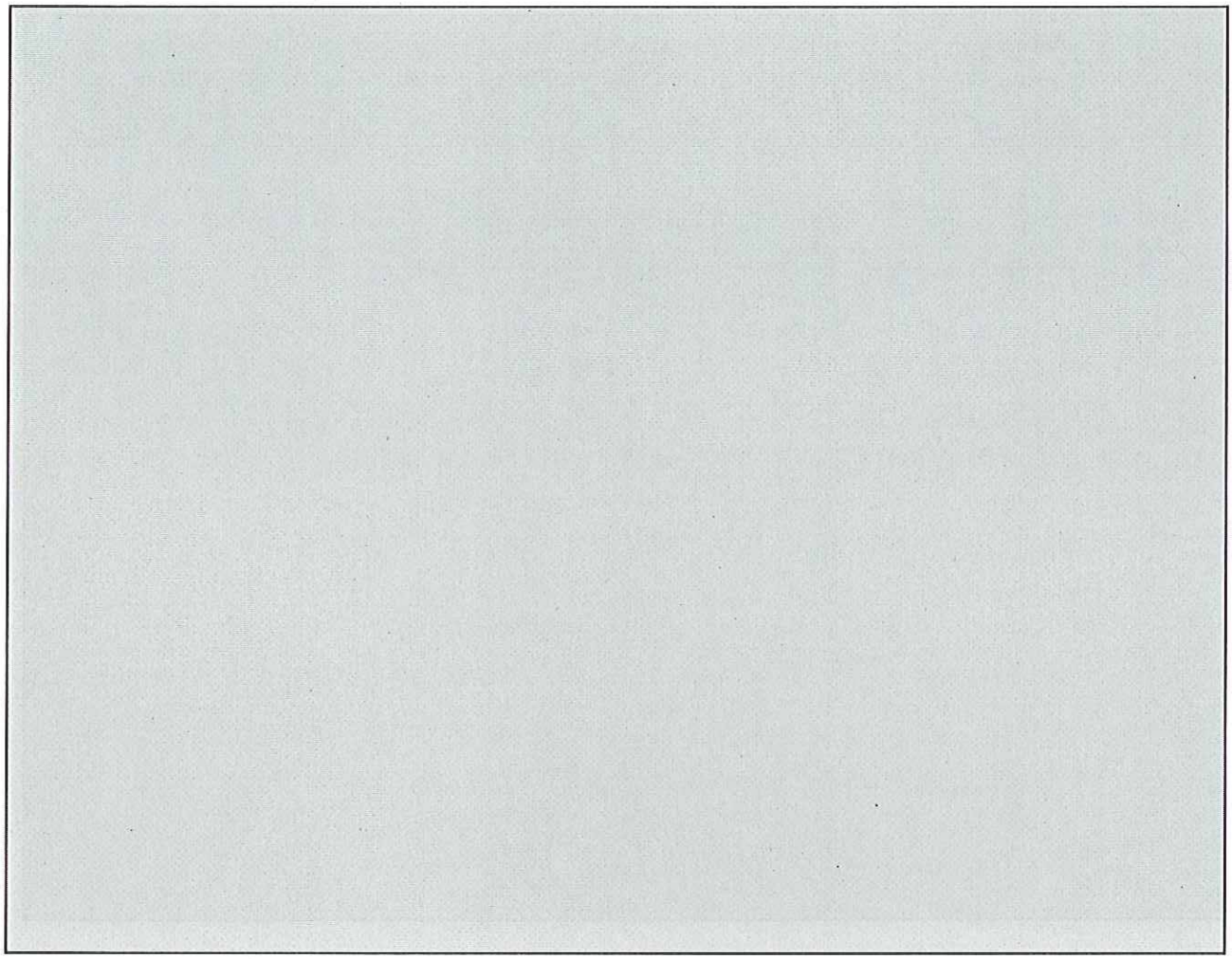


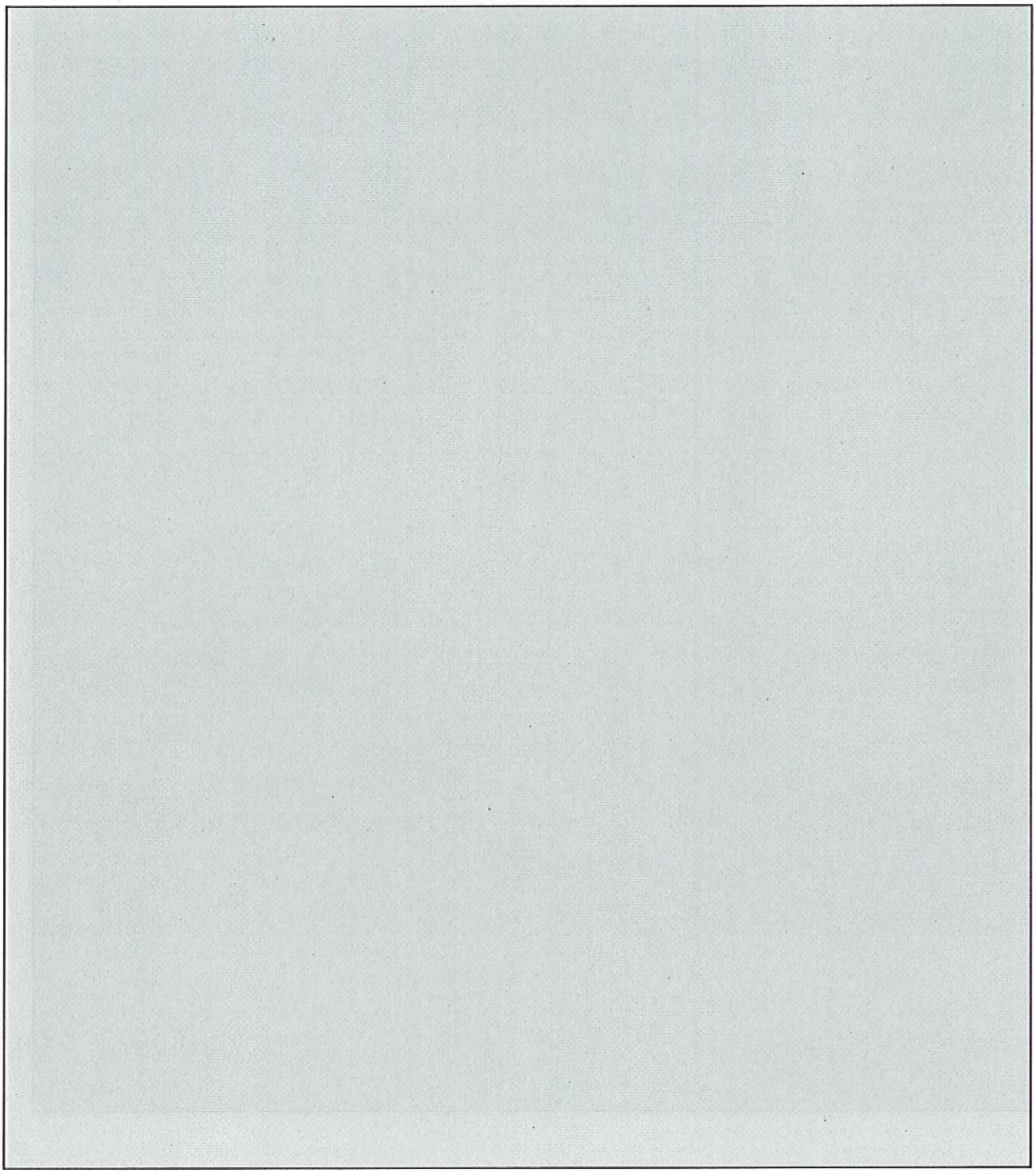


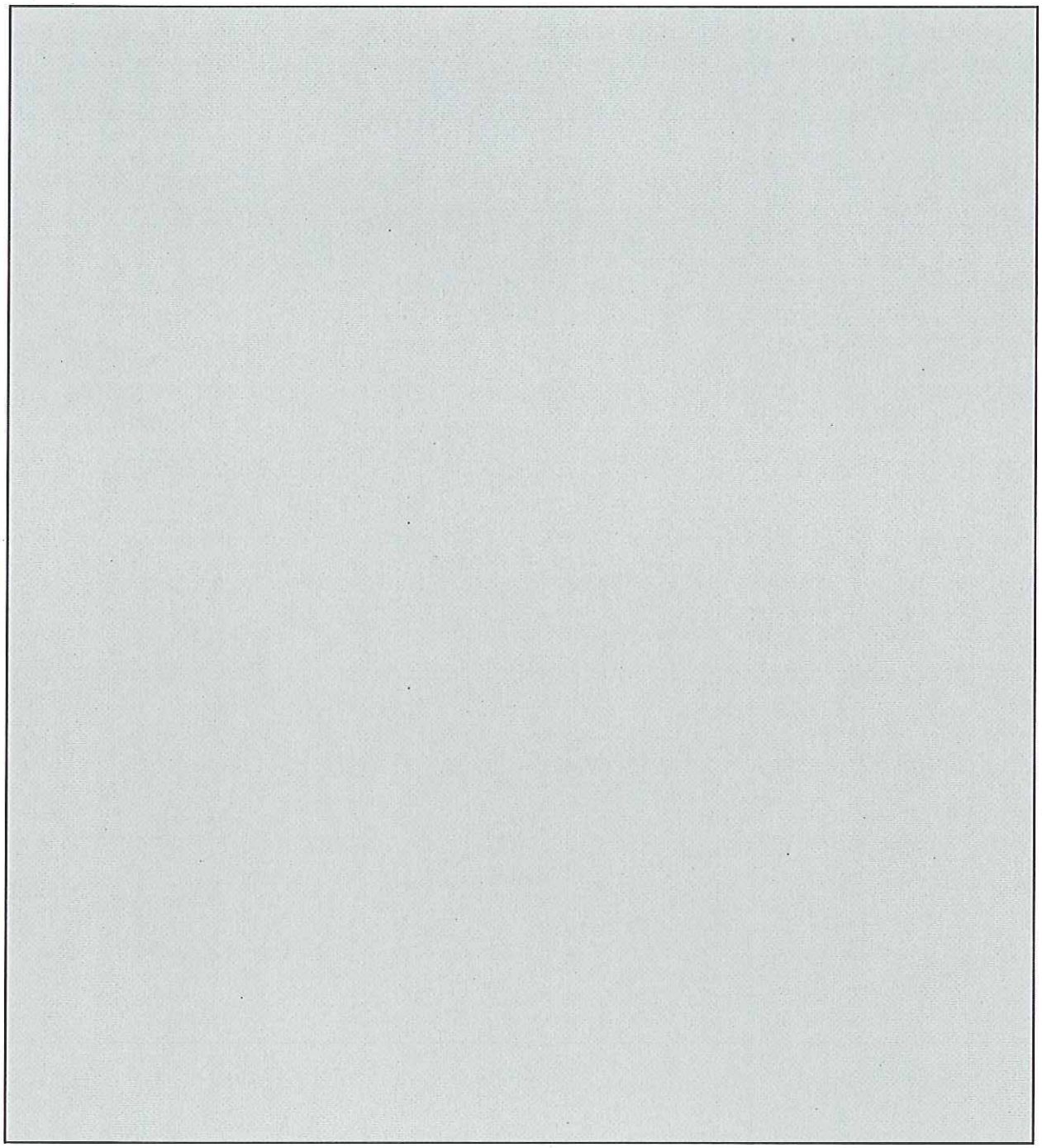


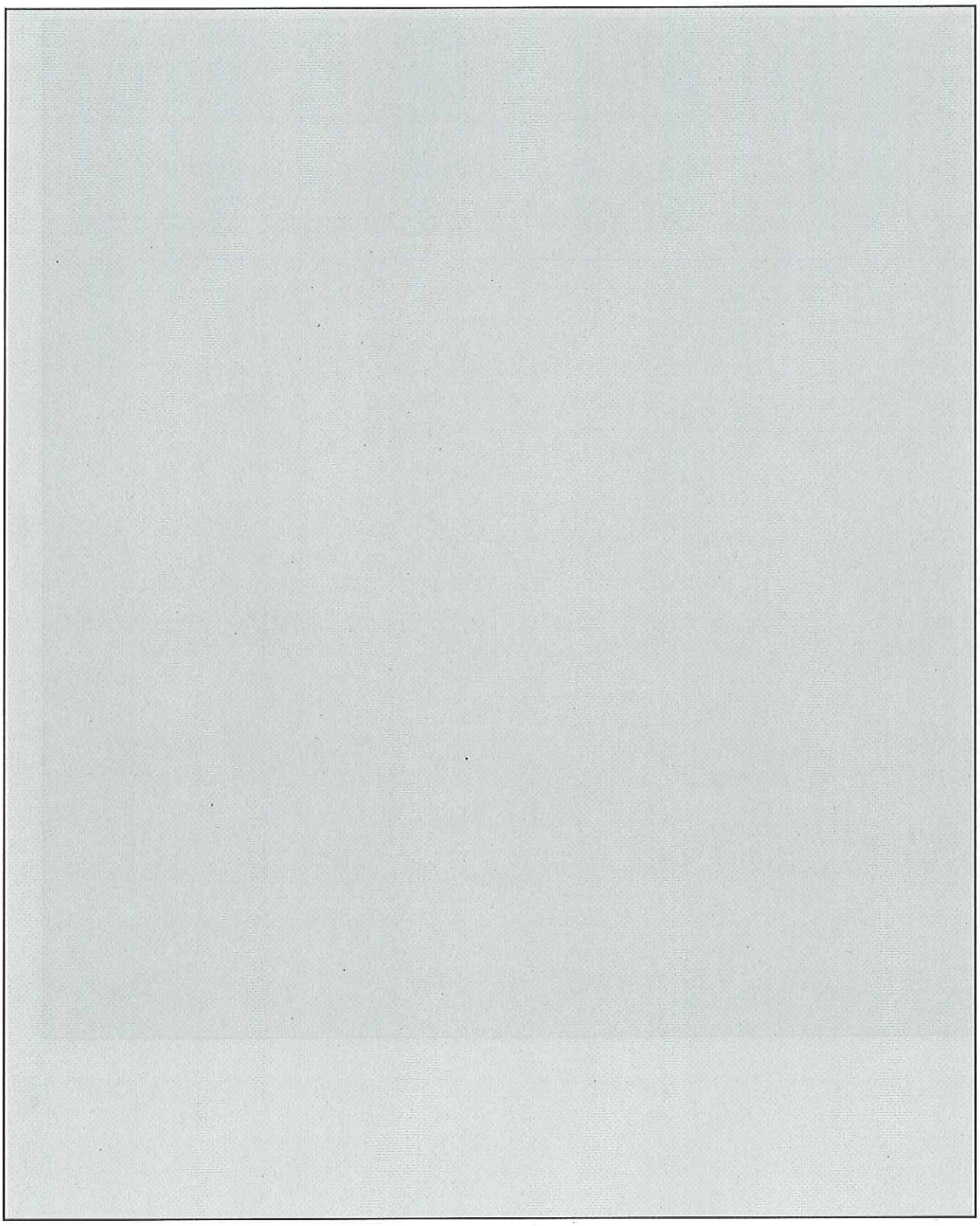


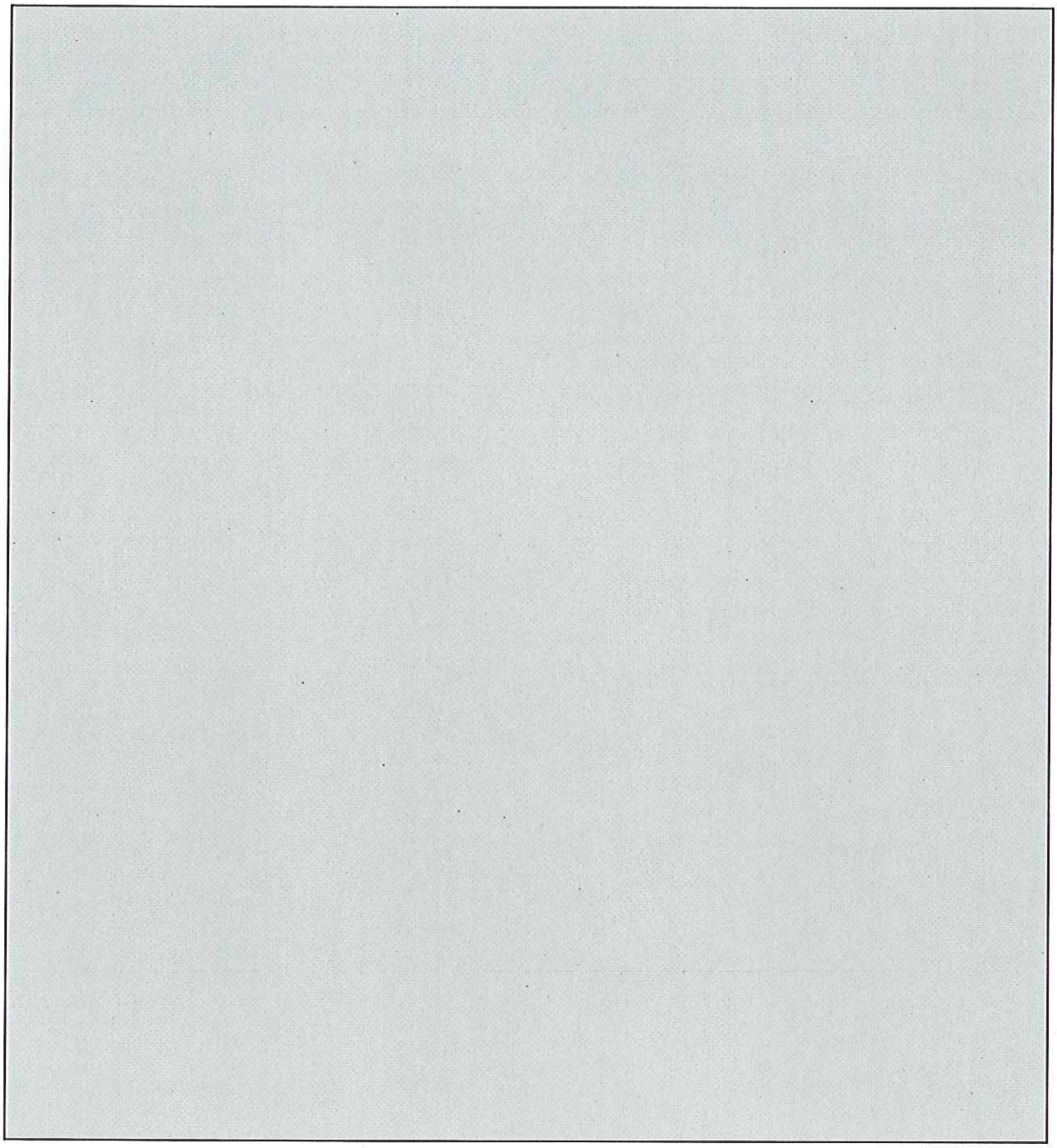


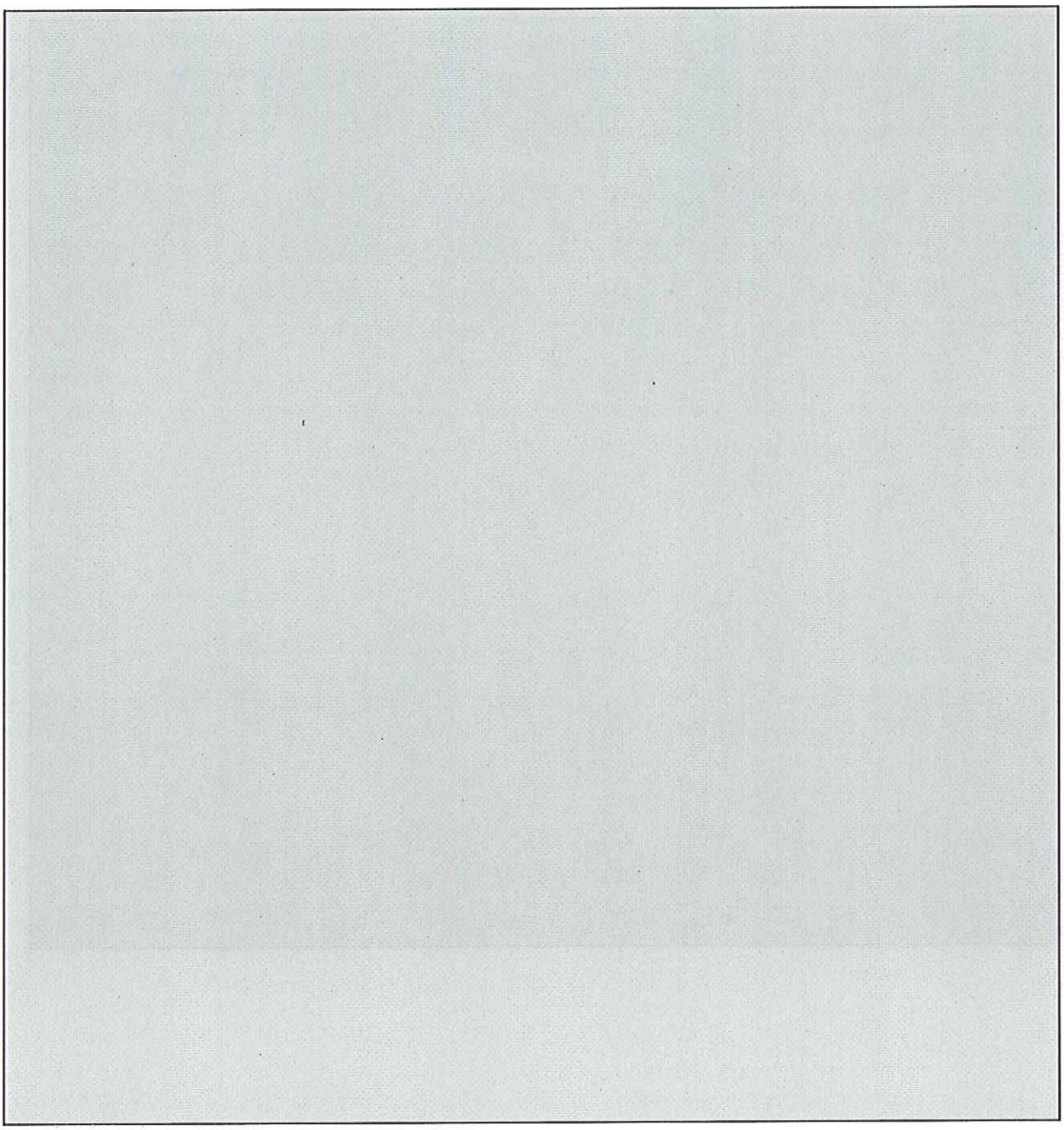


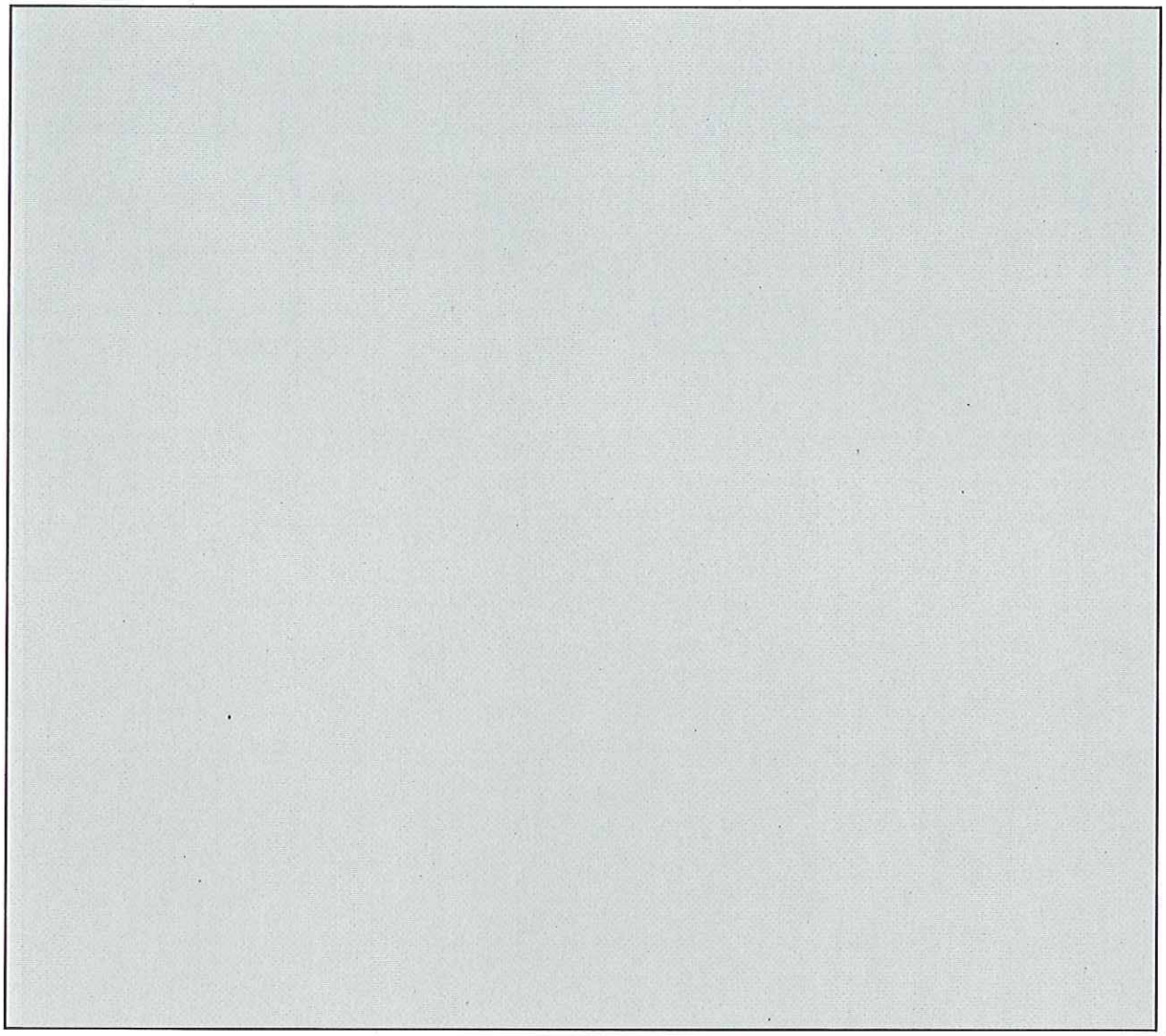


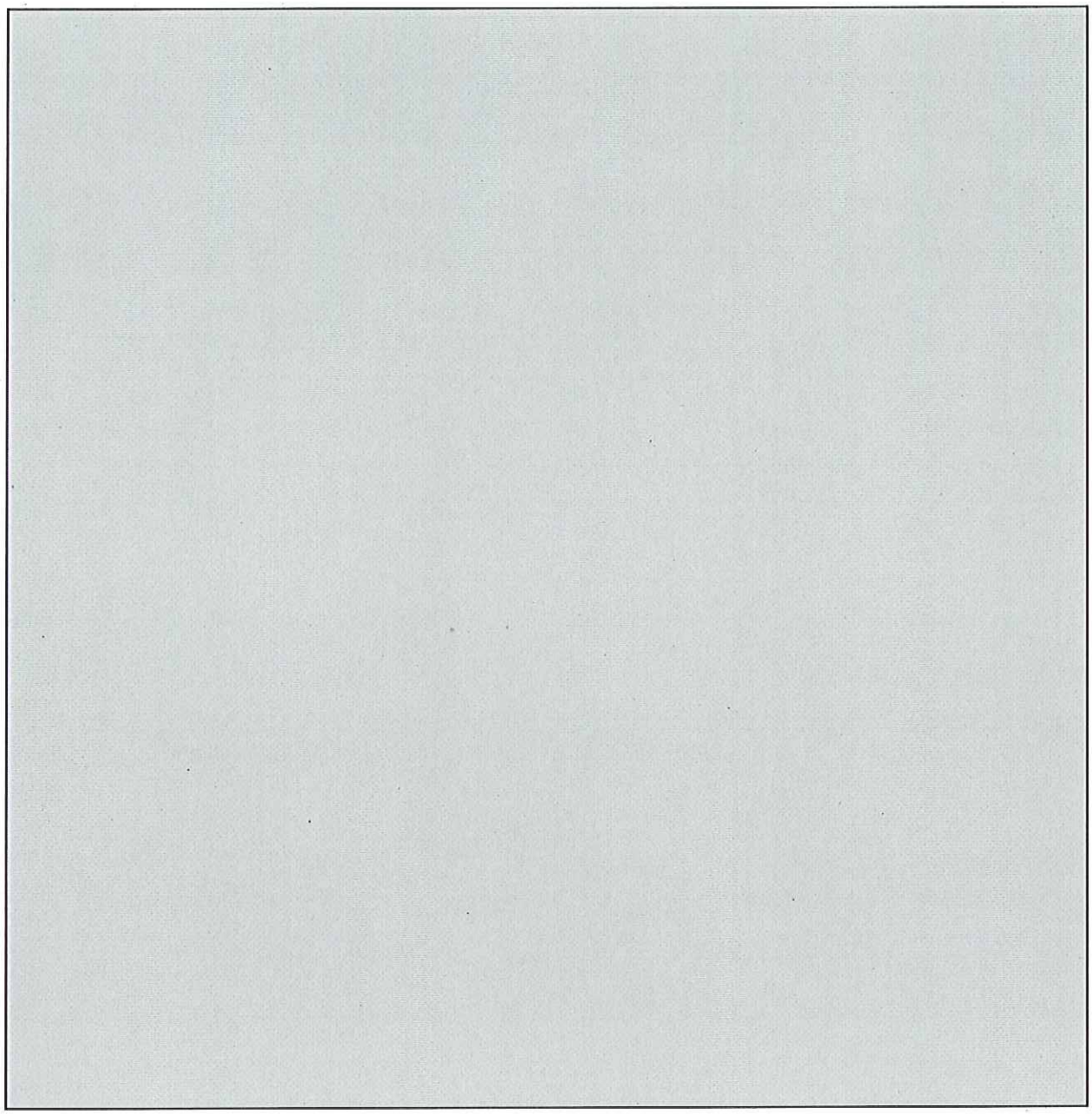


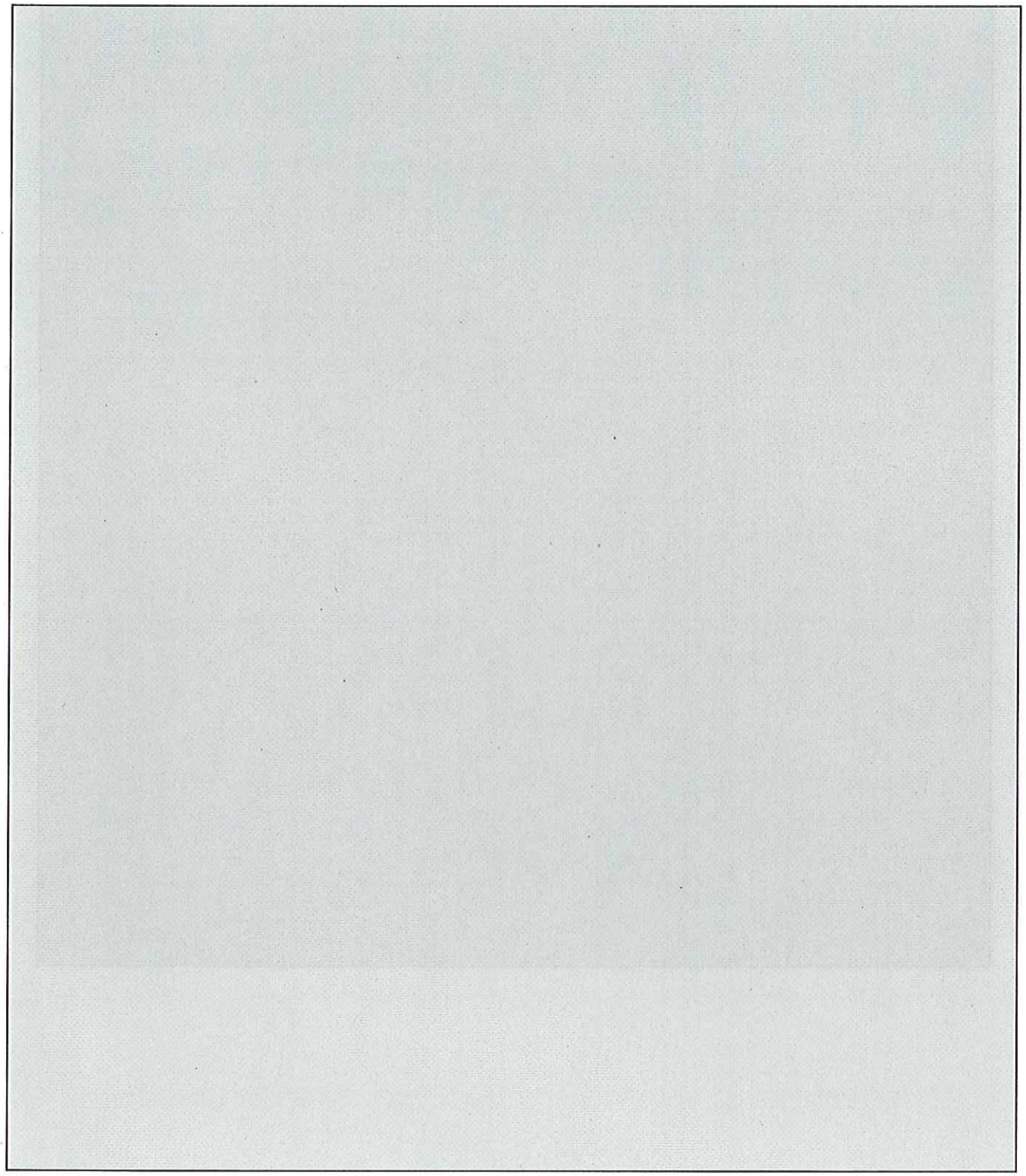


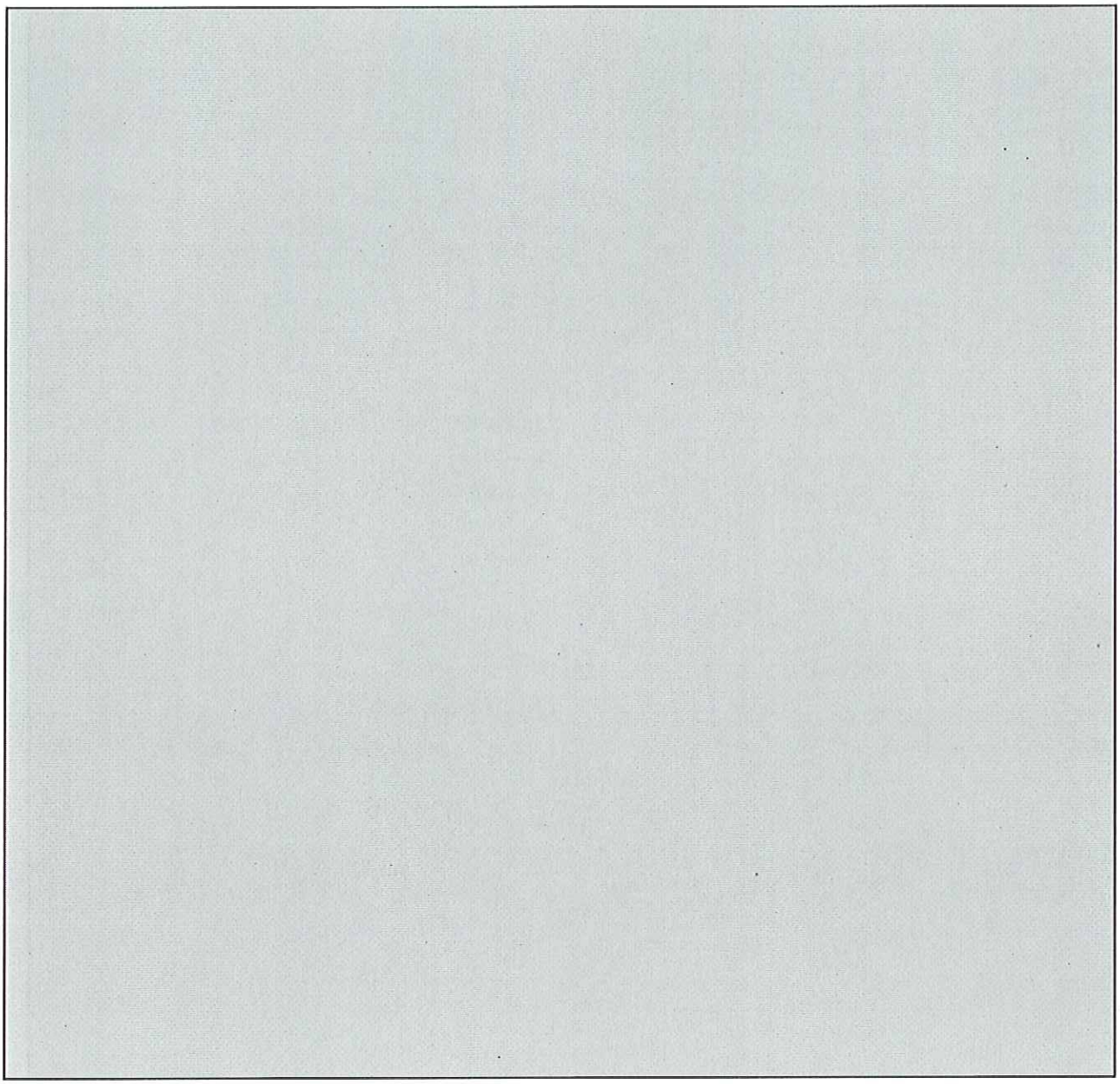


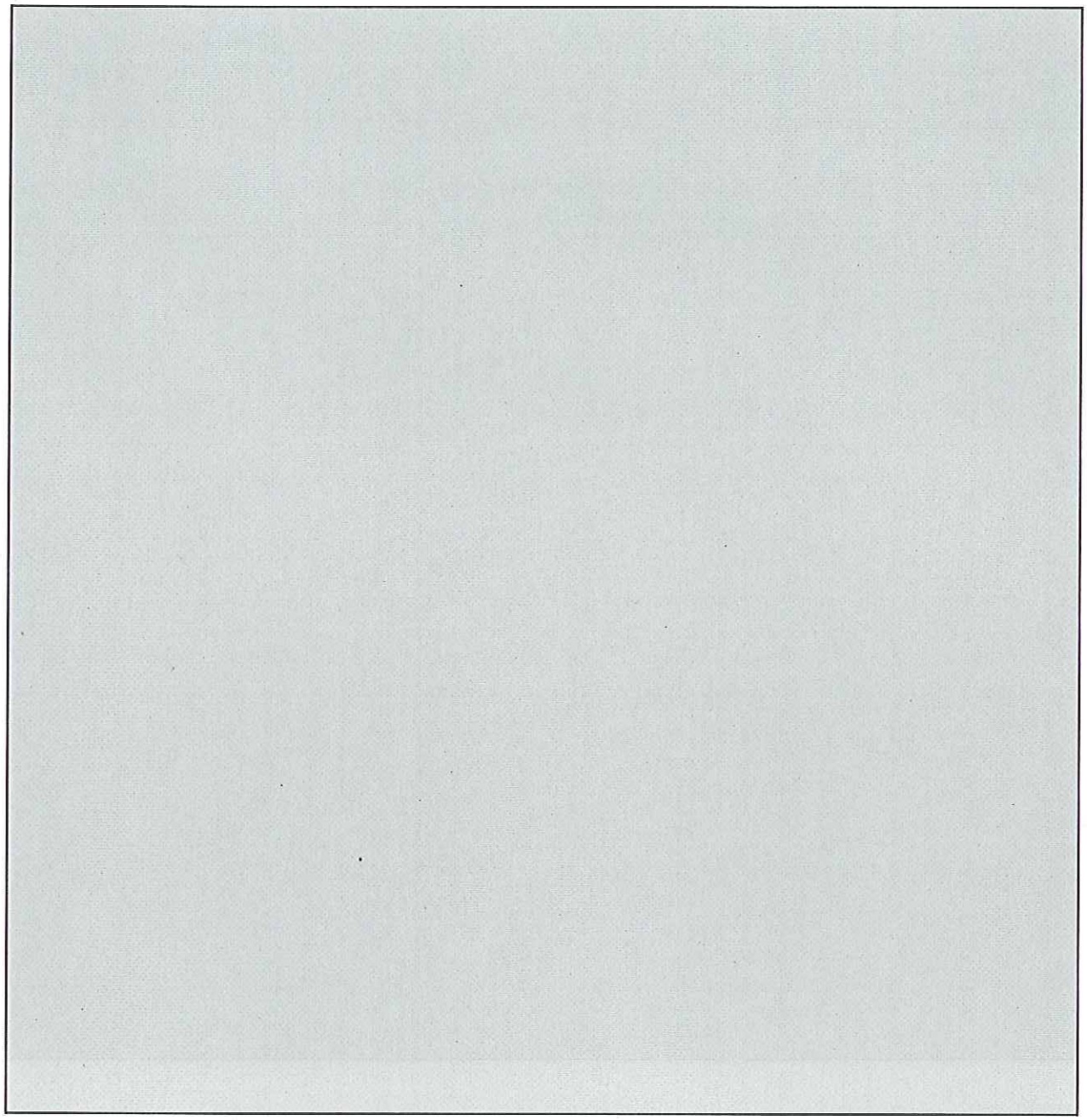


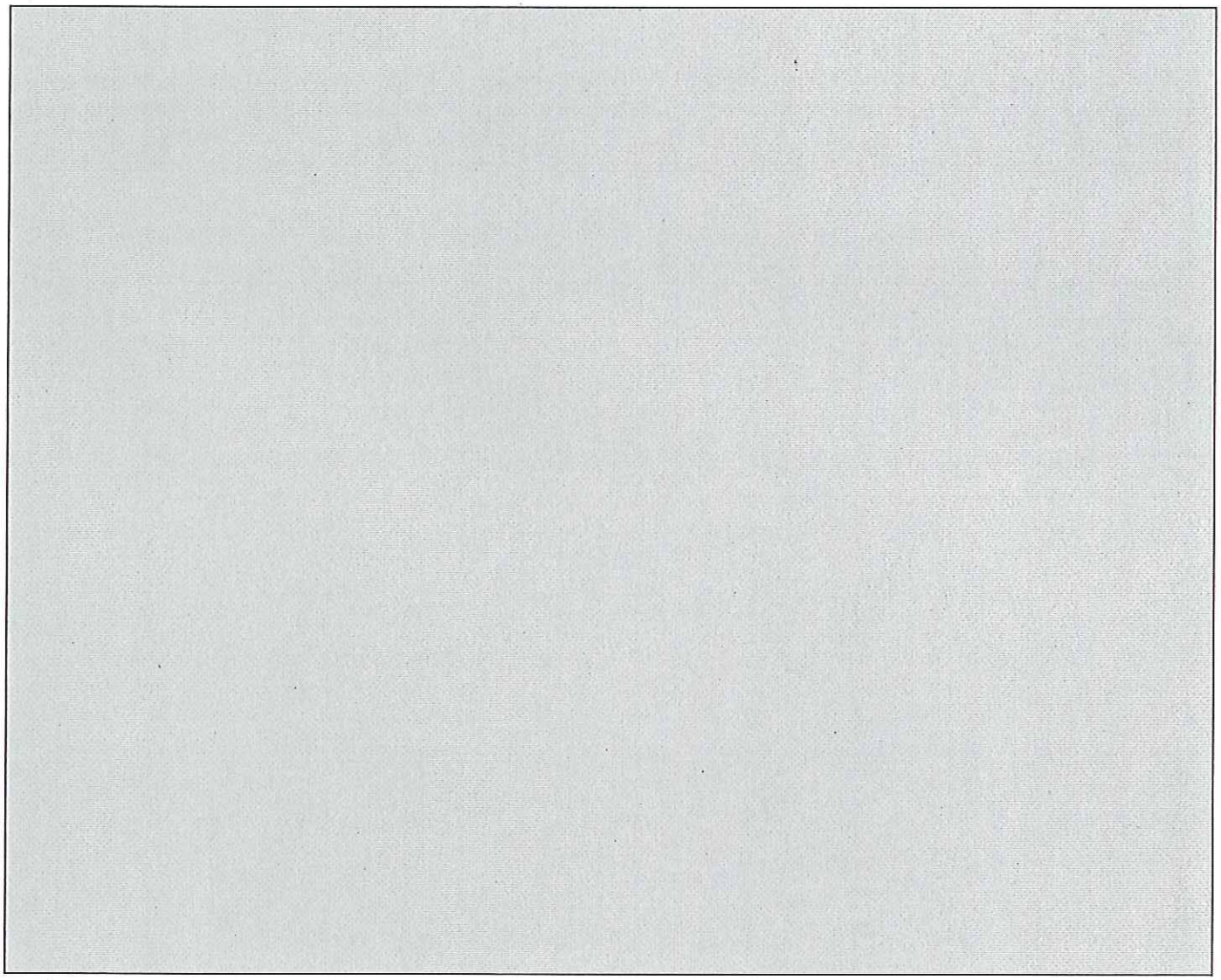












5. Support The Business

5.1 Commercial Buildings

Powerlink relocated office premises to a lower cost non-CBD location prior to the current regulatory period. Powerlink continues to take advantage of its lower cost location. In line with the increasing levels of field based maintenance activities attributed to increasing numbers of network assets, more specialised secure car parking facilities are required to house field vehicles.

General replacement works for air handling units as well as corroded guttering and some drainage works and a range of other activities are also required.

The forecast levels of Commercial Buildings expenditure for the next period are as per the following Table 5.

Table 5 – Forecast Commercial Buildings Capital Expenditure 13-17 ($ FY10/11)

Description	12/13	13/14	14/15	15/16	16/17	Total
Commercial Buildings	$5.6m	$3.2m	$3.0m	$2.8m	$3.0m	$17.7m

CP.98204 Carpark Building No. 2

Background:

The space required for storage of Powerlink operational plant and vehicles continues to grow as the organisation's fleet expands in response to increasing business demands. Powerlink fleet vehicles are increasingly being parked on the neighbouring public roads as a result of insufficient onsite parking capacity.

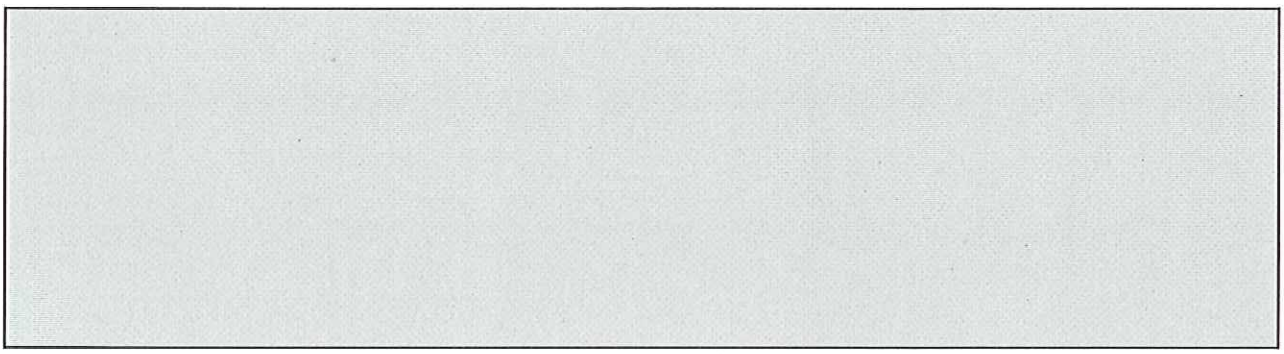
It is proposed to build an additional car park building at the Powerlink Virginia site, which will be purpose built to provide capacity for the secure storage of Powerlink fleet vehicles.

The scope of work is extensive and needs to be programmed in consideration of other major works planned for the Virginia site.

Key Objectives:

The proposed car park will involve:

- Site preparation including a minor amount of demolition work;
- Design, and construction of a 3 level car park building;
- Building architecture to be of a similar style and materials as per the existing car park building;
- The positioning of the building is such that fire rated walls will be required along the western side, and along the northern property boundary adjacent to the neighbouring property easement;
- Design, procurement and installation of appropriate building lighting, fire protection and exhaust ventilation systems;
- Design, procurement and installation of appropriate landscaping, including concrete paving, drainage, gardens and irrigation system;
- Review and upgrade as required, the existing property entrance arrangements, in particular for the West Place gate entrance, which is likely to experience increased traffic flows as a result of the additional car park capacity.



5.2 Motor Vehicles

Powerlink's motor vehicle fleet and specialised mobile plant is utilised to support the works programs as well as the normal maintenance activities. The increased numbers of vehicles reflect the increased works and maintenance.

In terms of building efficiency, a standard procurement arrangement is set up via tender. Vehicles are then selected upon the needs of the function required. From this point onwards, details are kept on each make, and whole of lifecycle costs are built up to determine the most efficient and lowest cost platforms suitable for future use. The forecast for motor vehicles is detailed in Table 6.

Table 6 – Forecast Motor Vehicles Net Capital Expenditure 13-17 ($ FY10/11)

Description	12/13	13/14	14/15	15/16	16/17	Totals
Asset Replacements per FY	61	77	81	64	68	351
Growth	9	8	7	8	7	39
Capital Cost	$2.9m	$3.6m	$4.3m	$3.4m	$4.5m	$18.8m

Note that vehicle types that are up for replacement vary across trailers, "normal" work vehicles and forklifts, and hence the motor vehicle expenditure on a per year basis is variable.

5.3 Moveable Plant

Moveable plant consists primarily of tools and equipment that are the physical equipment used every day by the business that allows the personnel to perform the roles in a safe and efficient manner.

This includes equipment as diverse as shrink-wrapping equipment for protecting deliveries, GPS units, contour lasers through to digital test equipment for testing integrity of fibre optic cable. The forecast of Moveable Plant including tools and equipment capital expenditure is detailed in Table 7. This is based on a three year rolling average.

Table 7 – Forecast Moveable Plant Capital Expenditure 13-17 ($ FY10/11)

Description	12/13	13/14	14/15	15/16	16/17	Total
Moveable Plant	$1.9m	$1.8m	$1.7m	$1.8m	$1.8m	$8.9m